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**REPORT No. 2**  
**FEBRUARY, 2000**

*For information/comments:*

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web site for historical reports: <http://clockdev.usno.navy.mil/TTR>*

This monthly report contains a comparison of Two-way Satellite Time Transfer (TW), Common-view Time Transfer (CV), and Carrier-Phase Time/Frequency Transfer (CP) data analyzed at USNO. Time transfer data is tabulated and analyzed in a one-point-per-day format for the list of timing labs given below. Because we currently process TW data only for those baselines which include USNO, not every baseline combination of these labs is included in this report.

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NPL Teddington, Middlesex, UK  
PTB Braunschweig, Germany  
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### **HOW THE TABLES ARE CALCULATED**

For each baseline, time-transfer data are collected from each of the TW, CV, and CP analysis groups at USNO. To each data time series, a one-day linear fit is made. From this fit, a value for time-transfer is selected which corresponds to an epoch at which a TW data point exists. For those days without TW data, the CP and CV time-transfer value is related to 12:00 UTC. Also, the RMS scatter about each linear fit is given in the table.

Following each table are graphs of TW-CV, TW-CP, and CV-CP differences. Error bars are drawn on each data point reflecting an RSS combination of the RMS values obtained from the linear fits to each TW, CV, and CP time series. Though the tables in each report will consist of one month of data, the graphs will be cumulative until one year of data is collected, after which the graphs will consist of a one-year moving window.

Basic hardware configurations at each site are provided at the end of the report. Because some sites may have more than one receiver/modem, a separate designation has been specified for each receiver combination. For example, the report includes 8 designations for USNO (e.g. USNO(a), USNO(b), ..., USNO(h)) where each designation corresponds to a different combination of CV, CP, and TW receivers/modems. Since each designation represents a combination of TW, CV, and CP receivers/modems, these hardware configuration tables will be somewhat redundant. For example, USNO(a) and USNO(b) differ only in the choice of CV receiver (i.e. the TW and CP hardware are the same for USNO(a) and USNO(b)).

NOTE: Currently, the following site combinations are such that CP receivers are NOT on the same reference standard as the CV and TW hardware: USNO(a), USNO(b), PTB, TUG. However, the USNO(a) and USNO(b) clock estimates are re-referenced to the same timing reference as the CV and TW hardware using an optic fiber

link. Also, CP clock estimates at PTB are referenced to the same timing reference as CV and TW data using data from a SRS620 time-interval counter.

## **ADJUSTMENTS TO THE DATA**

Each table contains a column marked ADJUSTMENTS which indicate any manual adjustments made to the data. For example, we currently remove arbitrary values from the non-calibrated carrier-phase systems to account for receiver resets which can occur for example when a receiver's power is cycled. In particular, first differences of the carrier-phase estimates are taken and spikes larger than 10ns (accounting for large data gaps) are flagged as outliers. Flagged values are then replaced by linearly interpolating adjacent first differences. Finally, the series of first differences is then integrated back into the time domain by choosing an initial arbitrary constant so that all CP values are 0.000 on January 1, 2000. For these carrier-phase adjustments, the ADJUSTMENTS column represents the difference between the raw and the "cleaned" CP data, and is therefore a measure of the individual jumps removed. This is clearly not the optimal method of removing such jumps since some carrier-phase systems track a 1-pps input from the local reference which can be used to re-reference the receiver's internal clock to the external reference when such resets occur. However, since we do not have available such 1-pps for most of the non-USNO sites, we have opted instead to remain consistent and remove carrier-phase jumps according to this very simplistic method.

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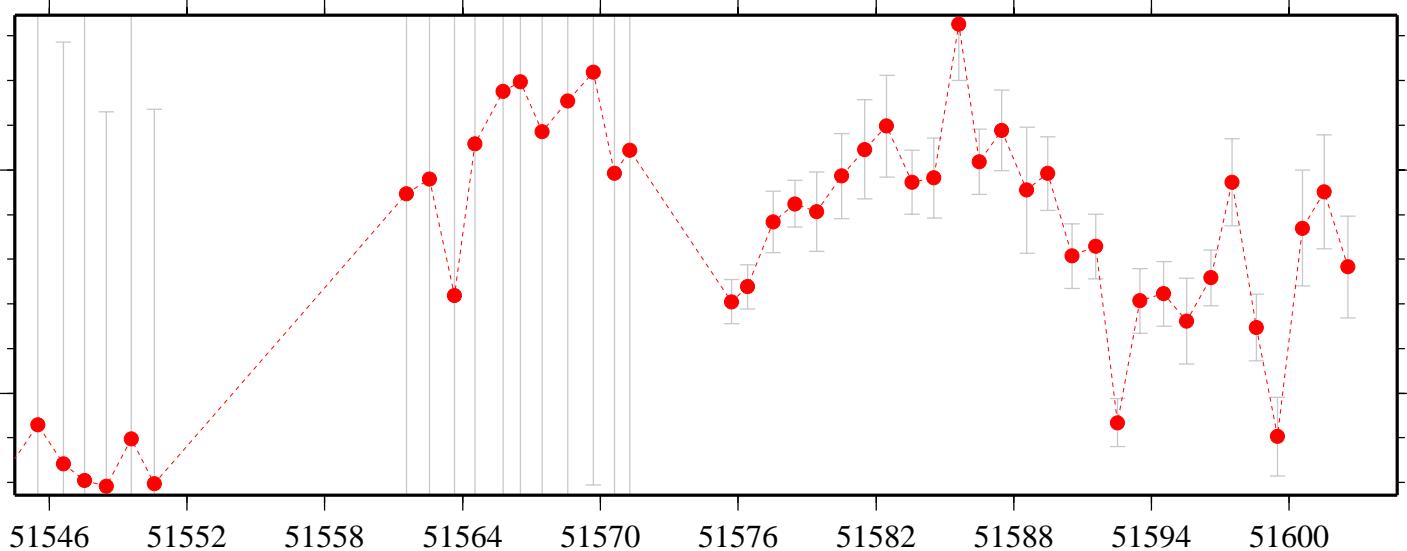
# USNO(a) - AMC

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.7229	-0.2	-58.7	3.067	- 48.807CP	58.5	-3.2	-61.8	0.1	0.2	0.003
51576.4102	0.0	-58.7	3.332		58.7	-3.4	-62.0	0.1	0.2	0.004
51577.5344	-0.1	-59.5			59.4			0.1	0.3	
51578.4729	-0.3	-59.9	3.607	- 1515.270CP	59.6	-3.9	-63.5	0.1	0.2	0.003
51579.4094	-0.4	-59.9	3.530		59.5	-3.9	-63.4	0.1	0.4	0.007
51580.5143	0.0	-59.9	4.066		59.9	-4.1	-64.0	0.1	0.5	0.282
51581.5139	-0.1	-60.3	3.224	- 4400.535CP	60.2	-3.3	-63.5	0.1	0.5	0.005
51582.4719	-0.2	-60.7	3.008		60.5	-3.2	-63.7	0.1	0.6	0.003
51583.5775	-0.1	-60.0	2.804		59.9	-2.9	-62.8	0.1	0.3	0.003
51584.5347	-0.2	-60.1	2.738	+ 5377.650CP	59.9	-2.9	-62.9	0.1	0.4	0.004
51585.6198	-0.2	-61.9	2.680		61.6	-2.9	-64.6	0.1	0.6	0.003
51586.4927	-0.3	-60.4	2.722		60.1	-3.0	-63.1	0.1	0.4	0.003
51587.4716	-0.4	-60.8	2.948		60.4	-3.3	-63.8	0.1	0.4	0.003
51588.5754	-0.9	-60.7	2.840	+ 97.754CP	59.8	-3.7	-63.5	0.1	0.7	0.003
51589.4722	-0.7	-60.7	2.859	- 3568.768CP	60.0	-3.6	-63.6	0.1	0.4	0.003
51590.5344	-1.2	-60.2	2.813		59.0	-4.0	-63.1	0.1	0.3	0.003
51591.5611	-1.1	-60.3	2.776		59.1	-3.9	-63.0	0.1	0.3	0.003
51592.5136	-1.4	-58.5	2.824		57.2	-4.2	-61.4	0.1	0.2	0.003
51593.4934	-1.7	-60.2	3.042		58.5	-4.7	-63.2	0.1	0.3	0.004
51594.5365	-1.3	-59.9	3.342		58.6	-4.7	-63.3	0.1	0.3	0.004
51595.5344	-1.3	-59.6	3.391		58.3	-4.7	-63.0	0.1	0.5	0.003
51596.5969	-1.3	-60.1	3.231		58.8	-4.5	-63.3	0.1	0.3	0.003
51597.5146	-1.5	-61.4	3.150		59.9	-4.6	-64.5	0.1	0.5	0.003
51598.5754	-1.8	-60.1	3.057	- 1955.060CP	58.2	-4.9	-63.1	0.1	0.4	0.004
51599.4934	-1.7	-58.7	3.020		57.0	-4.7	-61.7	0.1	0.4	0.008
51600.5768	-1.1	-60.4	2.936		59.3	-4.0	-63.4	0.1	0.6	0.003
51601.5136	-1.3	-61.0	2.865		59.8	-4.1	-63.9	0.1	0.6	0.002
51602.5552	-1.5	-60.5	2.582		58.9	-4.1	-63.0	0.1	0.6	0.003

The ADJUSTMENTS column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

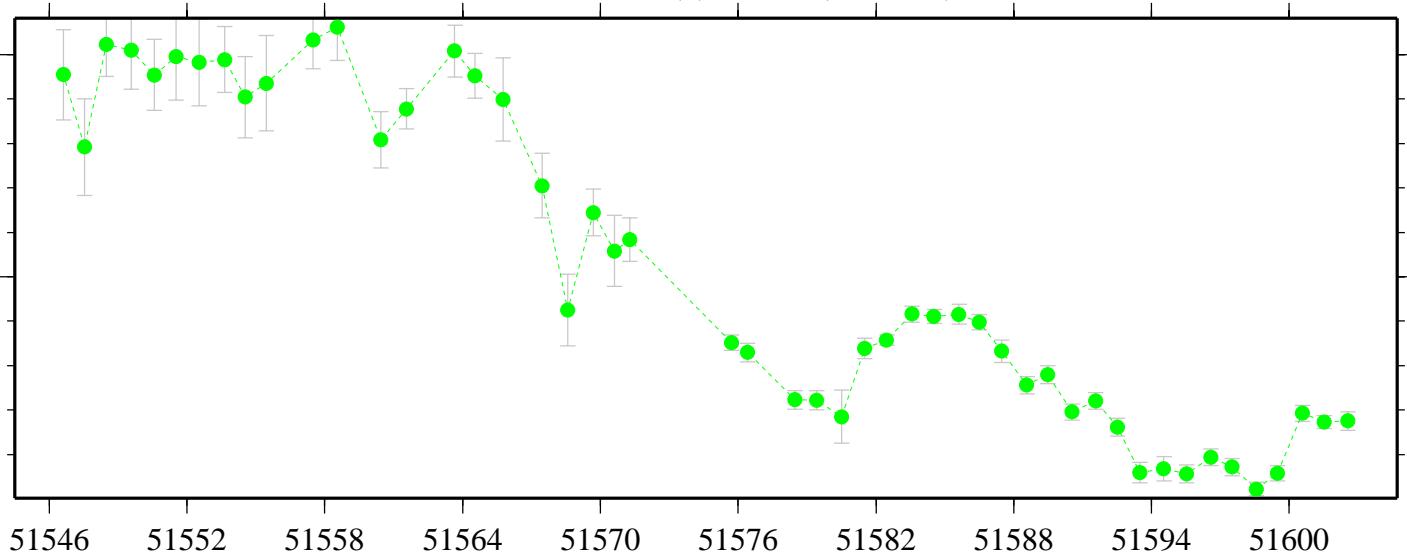
### USNO(a)-AMC (TW-CV)

NANOSECONDS



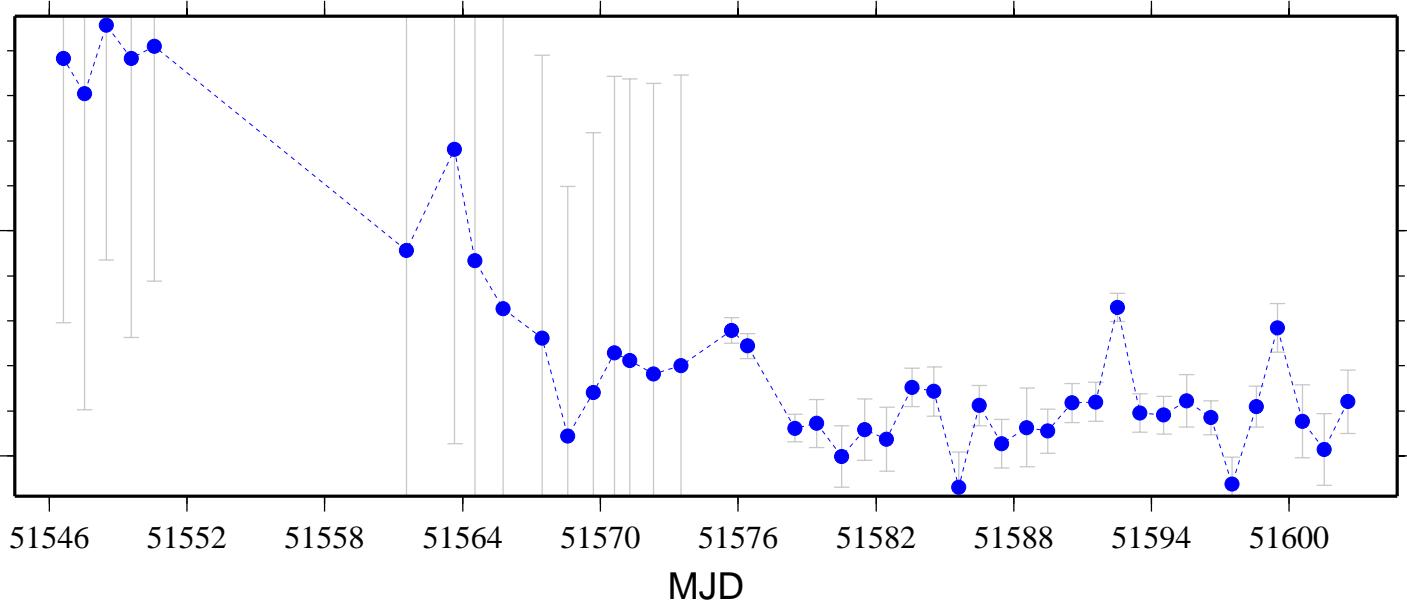
### USNO(a)-AMC (TW-CP)

NANOSECONDS



### USNO(a)-AMC (CV-CP)

NANOSECONDS



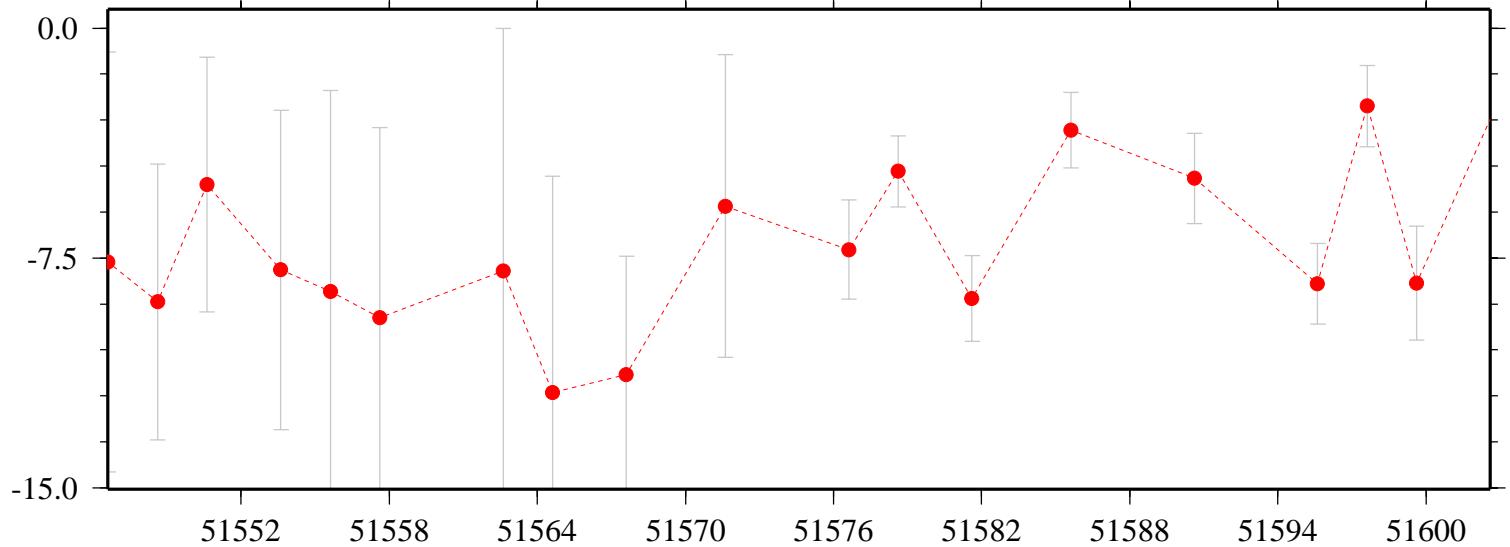
## USNO(b) - NPL

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.5000		95.8	-7.073	- 48.869 <sub>CP</sub>				102.9		1.2
51576.6097	89.6	96.8	-7.437		-7.2	97.0	104.2	0.3	1.6	0.008
51577.5000		95.7							1.3	
51578.6097	89.3	94.0	-9.709	- 1516.410 <sub>CP</sub>	-4.7	99.0	103.7	0.4	1.1	0.008
51579.5000		97.8	-10.590					108.4		1.3
51580.5000		97.1	-9.823					106.9		1.2
51581.6097	88.2	97.0	-13.208	- 4401.428 <sub>CP</sub>	-8.8	101.4	110.2	0.3	1.4	0.005
51582.5000		93.7	-13.765					107.5		1.5
51583.5000		97.8	-14.575					112.4		1.6
51584.5000		93.9	-15.626	+ 5377.182 <sub>CP</sub>				109.5		1.1
51585.6097	86.9	90.2	-16.759		-3.3	103.6	107.0	0.4	1.2	0.005
51586.5000		80.0	-17.200					97.2		1.7
51587.5000		90.1	-17.890					108.0		0.8
51588.5000		90.7	-18.818	+ 97.791 <sub>CP</sub>				109.5		1.5
51589.5000		88.2	-19.636	- 4399.480 <sub>CP</sub>				107.9		1.1
51590.6097	82.1	87.0	-19.956		-4.9	102.1	107.0	0.5	1.4	0.022
51591.5000		85.1	-20.358					105.5		1.1
51592.5000		85.6	-21.461					107.0		1.2
51593.5000		82.4	-22.481					104.9		1.5
51594.5000		79.7	-23.626					103.4		1.6
51595.6097	73.9	82.3	-25.213		-8.3	99.1	107.5	0.4	1.3	0.008
51596.5000		79.6	-26.765					106.4		1.5
51597.6096	70.5	73.0	-28.430		-2.5	98.9	101.4	0.5	1.2	0.005
51598.5000		76.1	-29.969					106.1		1.8
51599.6097	67.4	75.7	-31.838		-8.3	99.2	107.6	0.4	1.8	0.014
51600.5000		71.9	-33.569					105.5		1.1
51601.5000		69.2	-35.208					104.4		1.5
51602.6097	62.9	65.9	-37.164		-2.9	100.1	103.0	0.4	1.7	0.004

The ADJUSTMENTS column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

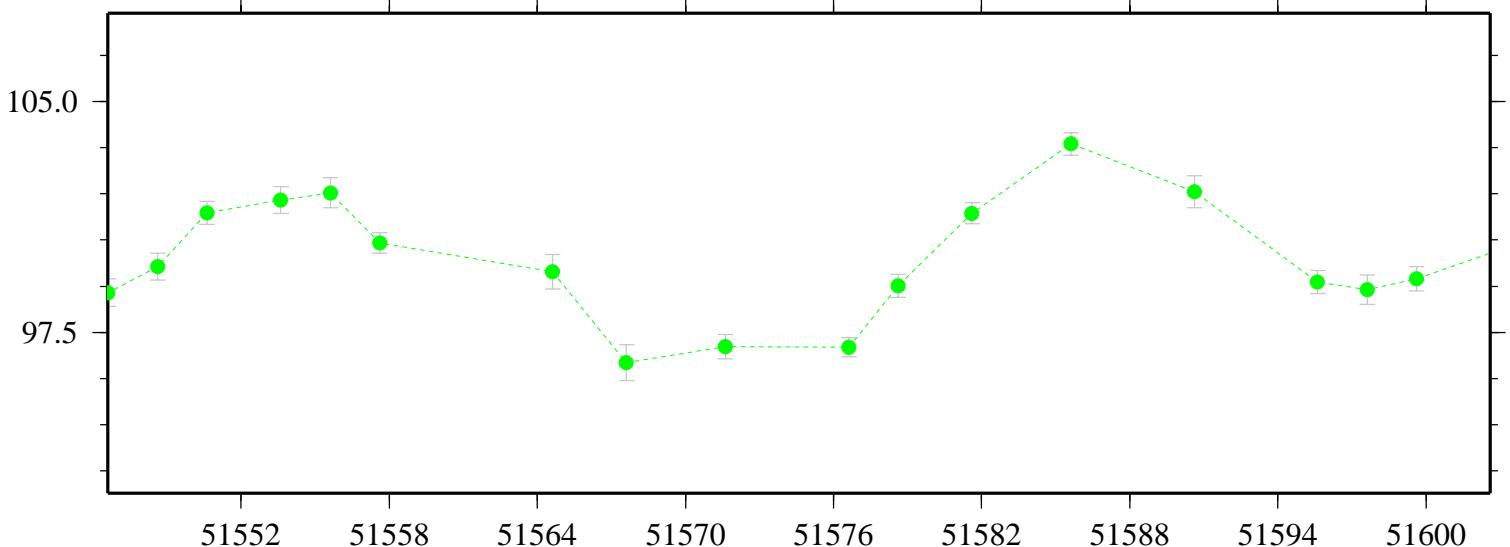
### USNO(b)-NPL (TW-CV)

NANOSECONDS



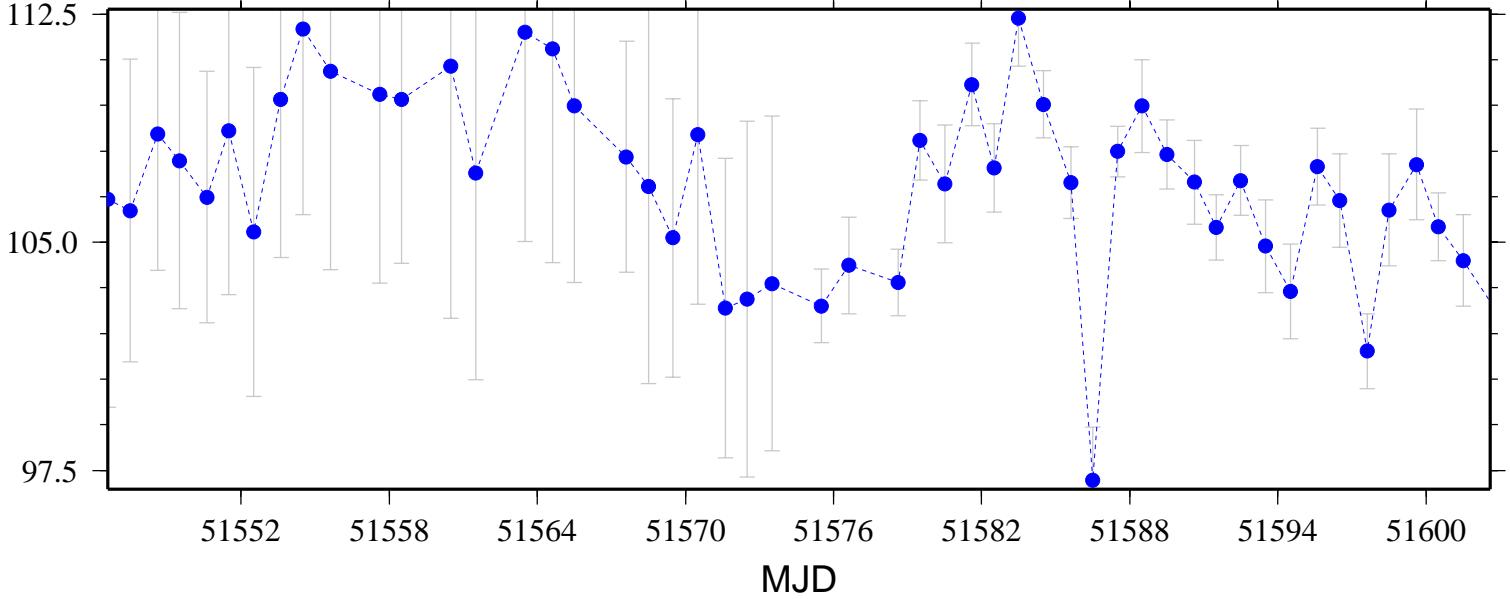
### USNO(b)-NPL (TW-CP)

NANOSECONDS



### USNO(b)-NPL (CV-CP)

NANOSECONDS



x and y-axes are same scale

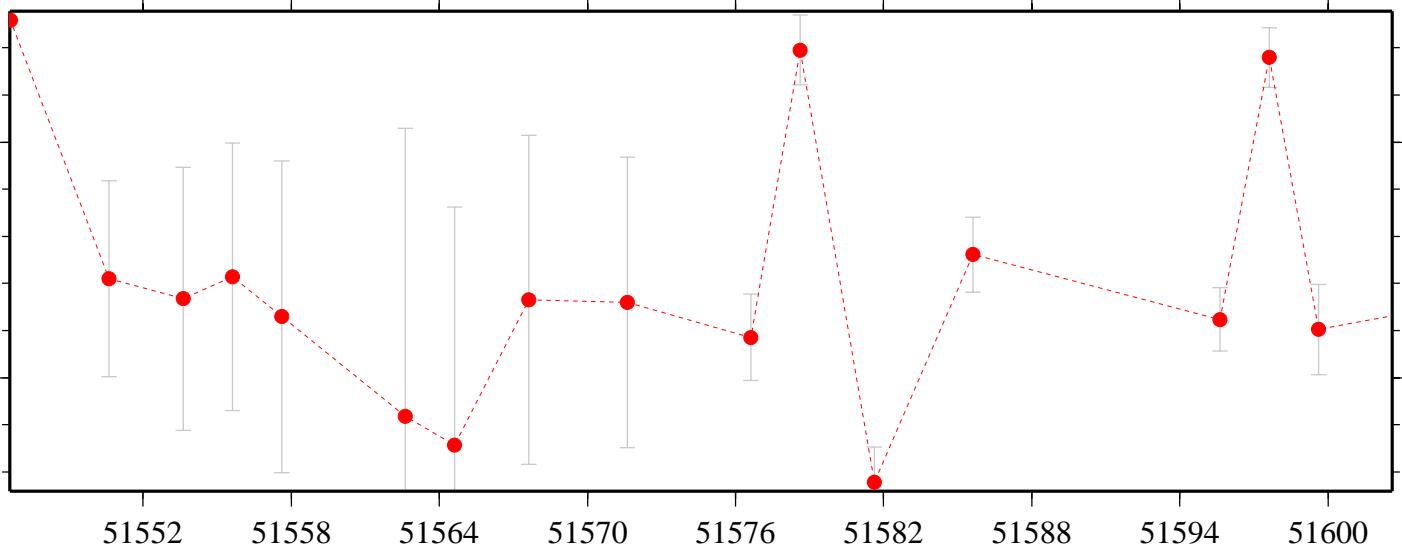
# USNO(b) - PTB

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.5000		7.7	36.634	- 49.546 <sub>CP</sub>			-29.0		0.9	0.013
51576.6160	5.6	12.2	37.509		-6.6	-32.0	-25.3	0.9	1.2	0.022
51577.5000		10.5							0.9	
51578.6160	12.8	9.6	36.262	- 1514.163 <sub>CP</sub>	3.1	-23.5	-26.6	0.7	0.9	0.036
51579.5000		12.0	36.499				-24.5		0.8	0.022
51580.5000		15.1	37.816				-22.7		1.3	0.046
51581.6160	6.4	17.9	36.608	- 4400.996 <sub>CP</sub>	-11.5	-30.2	-18.7	0.6	1.0	0.025
51582.5000		13.6	38.473				-24.8		1.2	0.018
51583.5000		18.8	39.504				-20.7		1.2	0.027
51584.5000		16.3	38.910	+ 5377.077 <sub>CP</sub>			-22.6		1.1	0.010
51585.6160	10.3	14.1	39.407		-3.8	-29.1	-25.3	0.5	1.2	0.037
51586.5000		7.1	39.622				-32.5		1.8	0.014
51587.5000		16.2							0.8	
51588.5000		17.8	40.391	+ 97.823 <sub>CP</sub>			-22.6		1.3	0.016
51589.5000		15.5	40.576	- 4399.441 <sub>CP</sub>			-25.1		0.8	0.017
51590.5000		14.3	41.024				-26.7		1.3	0.018
51591.5000		14.2	40.609				-26.4		1.3	0.014
51592.5000		14.4	40.341				-25.9		0.8	0.043
51593.5000		13.3	38.872				-25.5		1.2	0.017
51594.5000		11.7	40.043				-28.4		1.3	0.027
51595.6160	9.5	15.5	41.465		-6.0	-31.9	-25.9	0.4	1.0	0.017
51596.5000		14.7	41.530				-26.8		1.2	0.012
51597.6160	14.2	11.4	40.396		2.9	-26.2	-29.0	0.4	0.9	0.030
51598.5000		15.7	39.952				-24.2		1.7	0.023
51599.6160	7.2	13.6	38.647		-6.4	-31.4	-25.1	0.5	1.4	0.014
51600.5000		12.0							0.9	
51601.5000		10.4	36.934				-26.5		1.7	0.013
51602.6160	4.6	10.5	34.246		-5.9	-29.7	-23.8	0.9	1.5	0.024

The **ADJUSTMENTS** column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

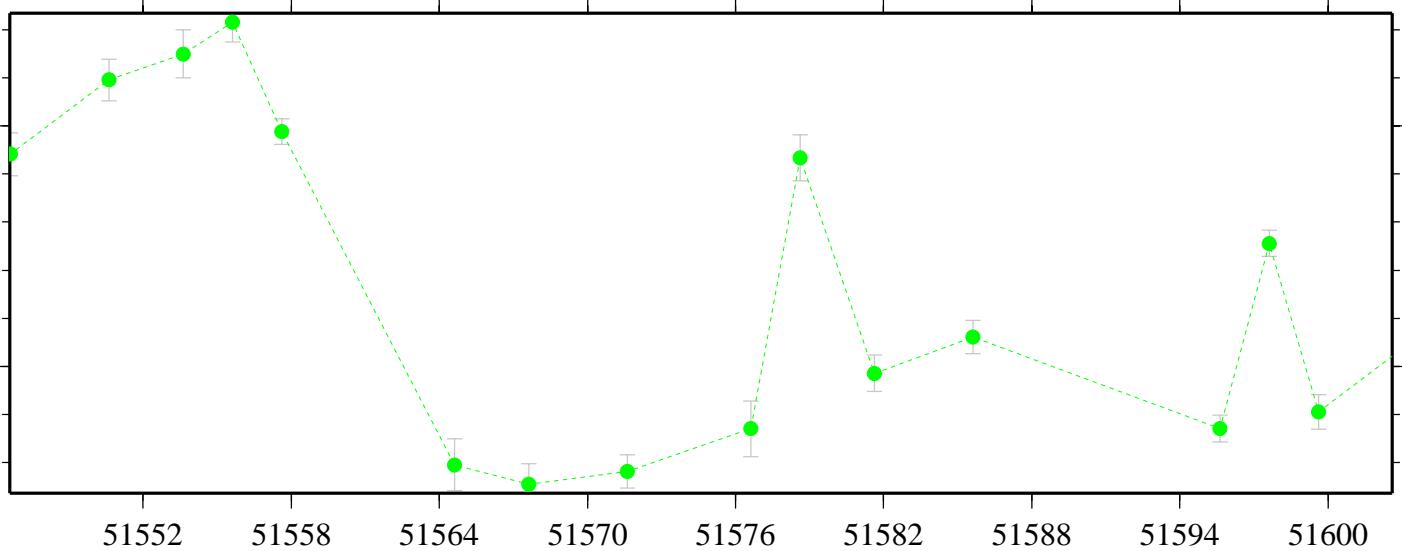
USNO(b)-PTB (TW-CV)

NANOSECONDS



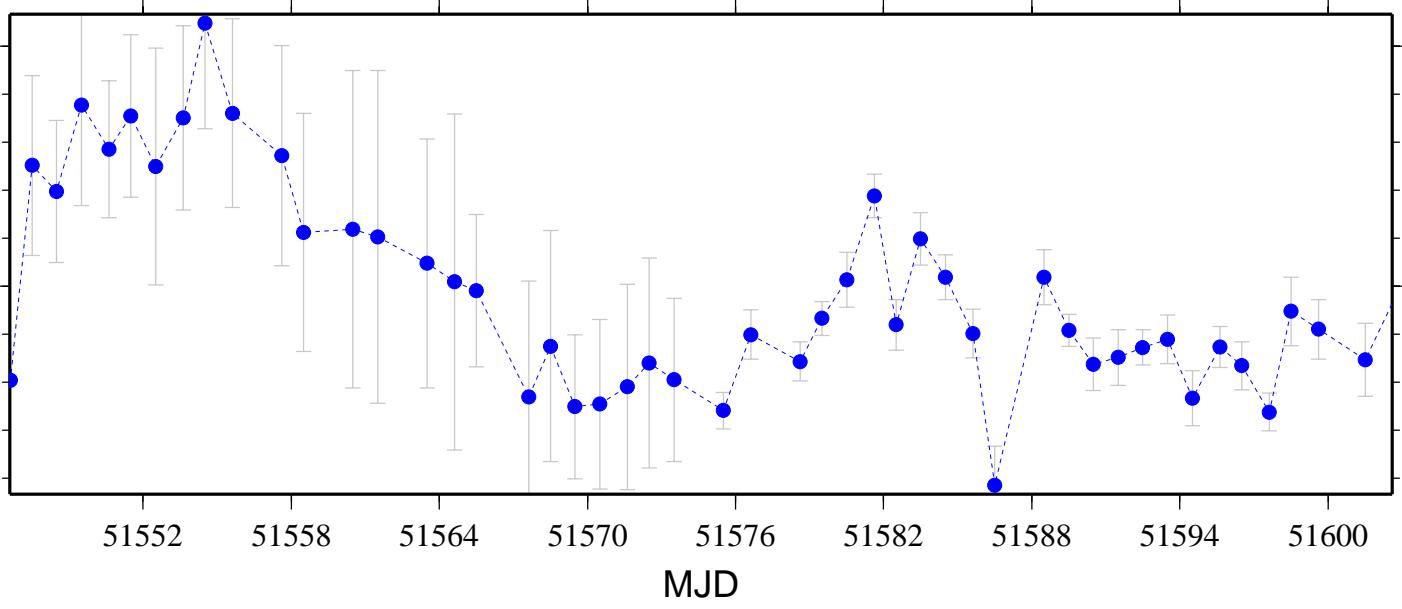
USNO(b)-PTB (TW-CP)

NANOSECONDS



USNO(b)-PTB (CV-CP)

NANOSECONDS



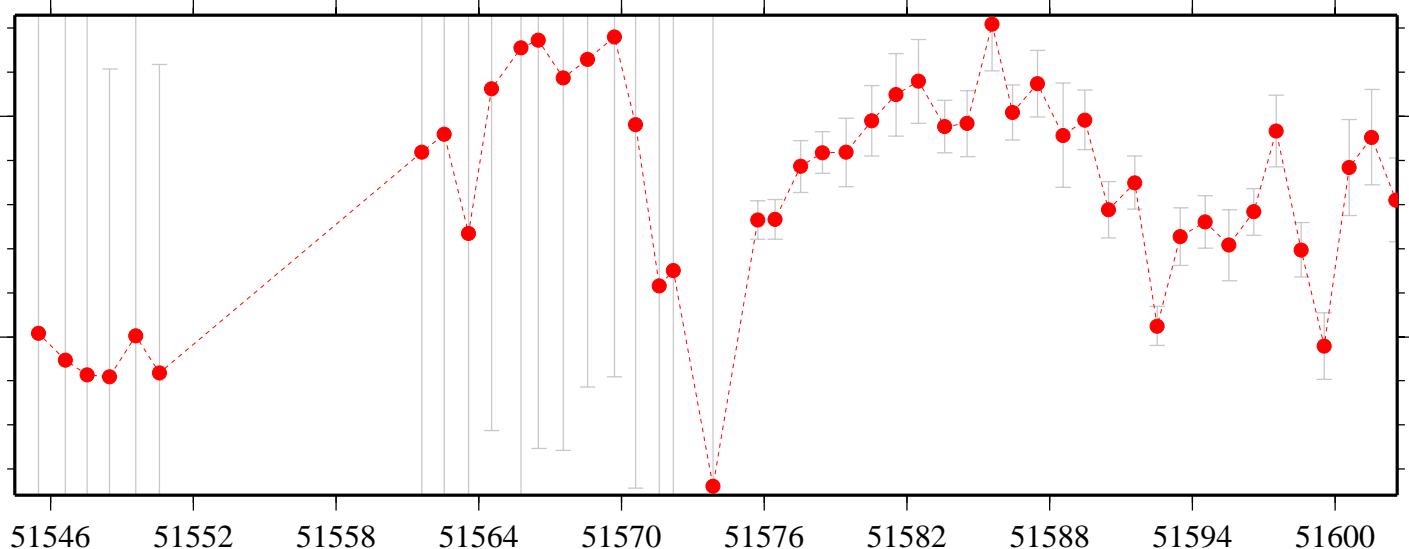
# USNO(c) - AMC

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.7229	-0.1	-58.7	-0.320		58.6	0.2	-58.4	0.1	0.2	0.005
51576.4525	-0.1	-58.7	-0.371		58.6	0.3	-58.3	0.2	0.2	0.002
51577.5344	-0.2	-59.5			59.3			0.1	0.3	
51578.4525	-0.4	-59.9	-0.611		59.5	0.2	-59.3	0.1	0.2	0.002
51579.4302	-0.5	-60.0	-0.373		59.5	-0.1	-59.6	0.2	0.4	0.003
51580.5143	0.0	-59.9	-1.938		59.9	1.9	-58.0	0.1	0.5	0.828
51581.5344	-0.1	-60.4	-0.362		60.3	0.2	-60.1	0.1	0.5	0.003
51582.4719	-0.2	-60.7	-0.384		60.5	0.2	-60.3	0.1	0.6	0.004
51583.5775	-0.1	-60.0	-0.531		59.9	0.4	-59.4	0.1	0.3	0.002
51584.5347	-0.2	-60.1	-0.625		59.9	0.4	-59.5	0.1	0.4	0.003
51585.5771	-0.3	-61.6	-0.819		61.2	0.5	-60.8	0.1	0.6	0.004
51586.4306	-0.3	-60.3	-1.396		60.1	1.1	-58.9	0.1	0.4	0.002
51587.4716	-0.4	-60.8	-1.712		60.4	1.3	-59.1	0.1	0.4	0.002
51588.5549	-0.8	-60.6	-1.992		59.7	1.2	-58.6	0.1	0.7	0.002
51589.4722	-0.8	-60.7	-1.974	+ 830.629CP	59.9	1.2	-58.7	0.1	0.4	0.004
51590.4719	-1.4	-60.1	-2.115		58.7	0.8	-58.0	0.2	0.3	0.003
51591.5611	-1.2	-60.3	-2.095		59.1	0.9	-58.2	0.1	0.3	0.002
51592.5136	-1.4	-58.5	-2.118		57.1	0.7	-56.4	0.1	0.2	0.002
51593.4934	-1.8	-60.2	-2.251		58.4	0.4	-57.9	0.2	0.3	0.004
51594.5365	-1.4	-59.9	-2.046		58.6	0.7	-57.9	0.1	0.3	0.003
51595.5344	-1.4	-59.6	-1.854		58.2	0.5	-57.8	0.1	0.5	0.004
51596.5761	-1.4	-60.1	-1.955		58.7	0.6	-58.1	0.1	0.3	0.004
51597.5146	-1.6	-61.4	-2.177		59.8	0.6	-59.2	0.1	0.5	0.003
51598.5754	-1.9	-60.1	-2.347	- 1955.709CP	58.2	0.5	-57.7	0.1	0.4	0.003
51599.5344	-1.9	-58.8	-2.652		56.9	0.7	-56.1	0.1	0.4	0.011
51600.5768	-1.1	-60.4	-2.696		59.3	1.5	-57.8	0.1	0.6	0.002
51601.5344	-1.4	-61.2	-2.609		59.7	1.2	-58.6	0.1	0.6	0.002
51602.5552	-1.6	-60.5	-2.559		58.9	1.0	-57.9	0.1	0.6	0.003

The ADJUSTMENTS column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

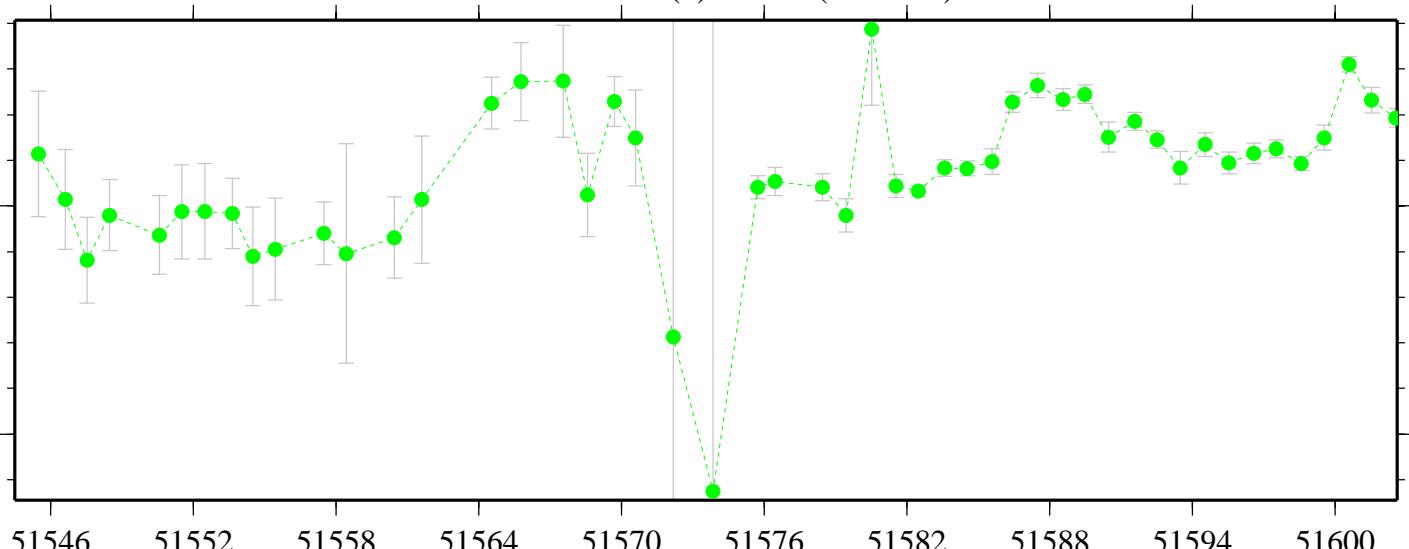
### USNO(c)-AMC (TW-CV)

NANOSECONDS



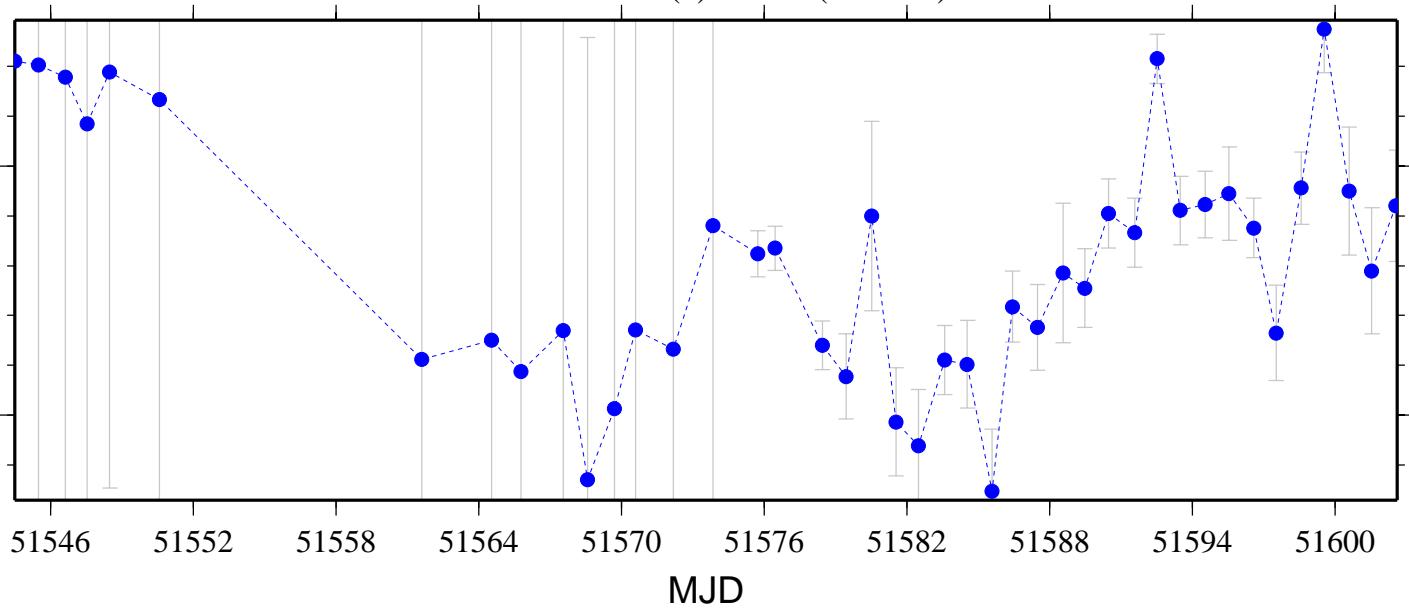
### USNO(c)-AMC (TW-CP)

NANOSECONDS



### USNO(c)-AMC (CV-CP)

NANOSECONDS



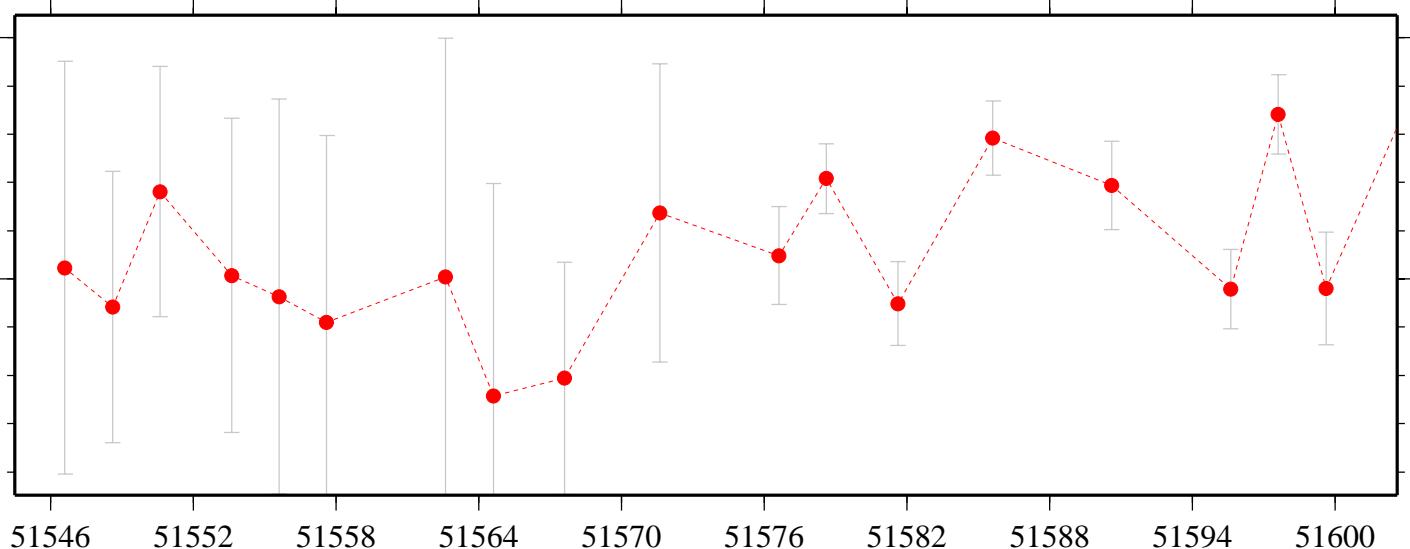
# USNO(d) - NPL

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.5000		95.8	-9.671					105.5		1.2
51576.6097	89.6	96.8	-10.696			-7.2	100.3	107.5	0.3	1.6
51577.5000		95.7								1.3
51578.6097	89.3	94.0	-12.219			-4.7	101.5	106.2	0.4	1.1
51579.5000		97.8	-12.700					110.5		1.3
51580.5000		97.1	-13.397					110.5		1.2
51581.6097	88.2	97.0	-14.497			-8.8	102.7	111.5	0.3	1.4
51582.5000		93.7	-14.745					108.4		1.5
51583.5000		97.8	-15.270					113.1		1.6
51584.5000		93.9	-15.964					109.9		1.1
51585.6097	86.9	90.2	-17.070			-3.3	103.9	107.3	0.4	1.2
51586.5000		80.0	-17.647					97.6		1.7
51587.5000		90.1	-18.863					109.0		0.8
51588.5000		90.7	-20.133					110.8		1.5
51589.5000		88.2	-21.124					109.4		1.1
51590.6097	82.1	87.0	-21.071			-4.9	103.2	108.1	0.5	1.4
51591.5000		85.1	-21.424					106.6		1.1
51592.5000		85.6	-22.704					108.3		1.2
51593.5000		82.4	-24.073					106.5		1.5
51594.5000		79.7	-25.547					105.3		1.6
51595.6097	73.9	82.3	-27.037			-8.3	101.0	109.3	0.4	1.3
51596.5000		79.6	-28.405					108.0		1.5
51597.6096	70.5	73.0	-30.092			-2.5	100.5	103.1	0.5	1.2
51598.5000		76.1	-31.545					107.6		1.8
51599.6097	67.4	75.7	-33.336			-8.3	100.7	109.1	0.4	1.8
51600.5000		71.9	-34.450					106.4		1.1
51601.5000		69.2	-35.876					105.1		1.5
51602.6097	62.9	65.9	-37.811			-2.9	100.7	103.7	0.4	1.7

The ADJUSTMENTS column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

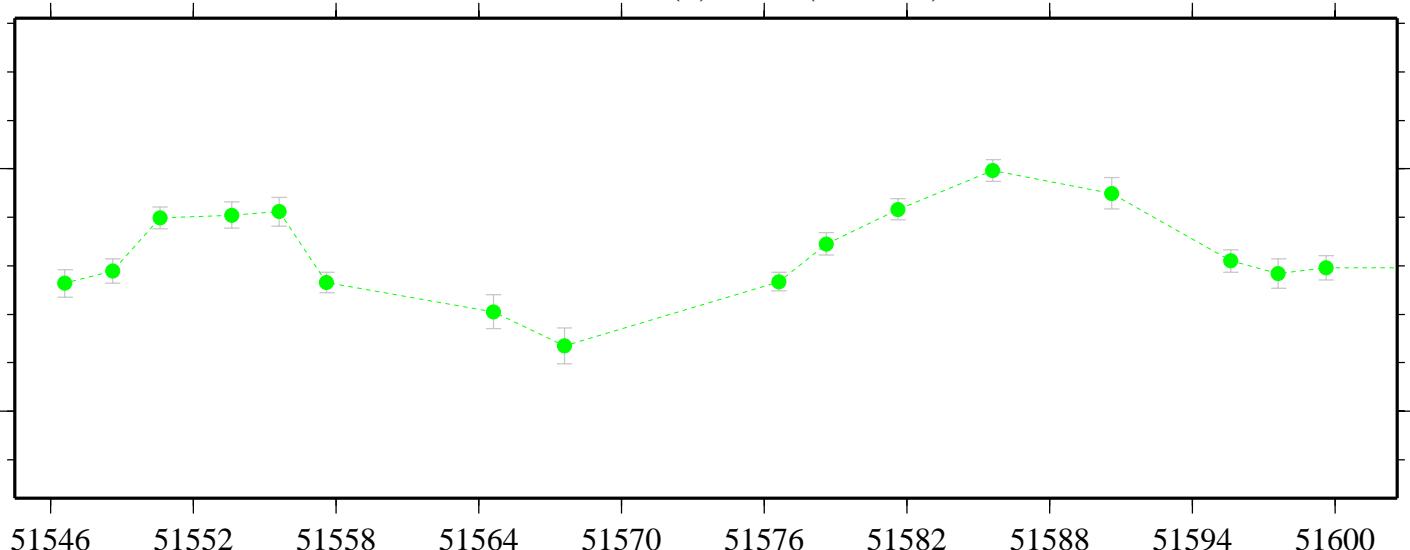
### USNO(d)-NPL (TW-CV)

NANOSECONDS



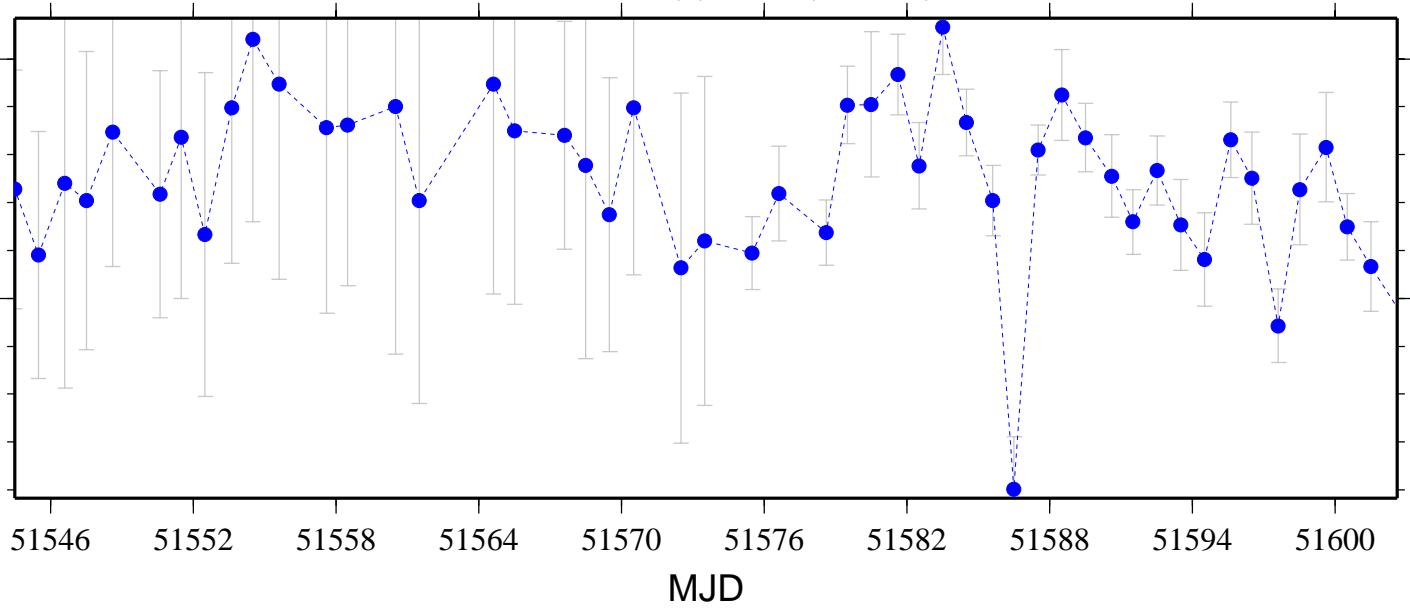
### USNO(d)-NPL (TW-CP)

NANOSECONDS



### USNO(d)-NPL (CV-CP)

NANOSECONDS



x and y-axes are same scale

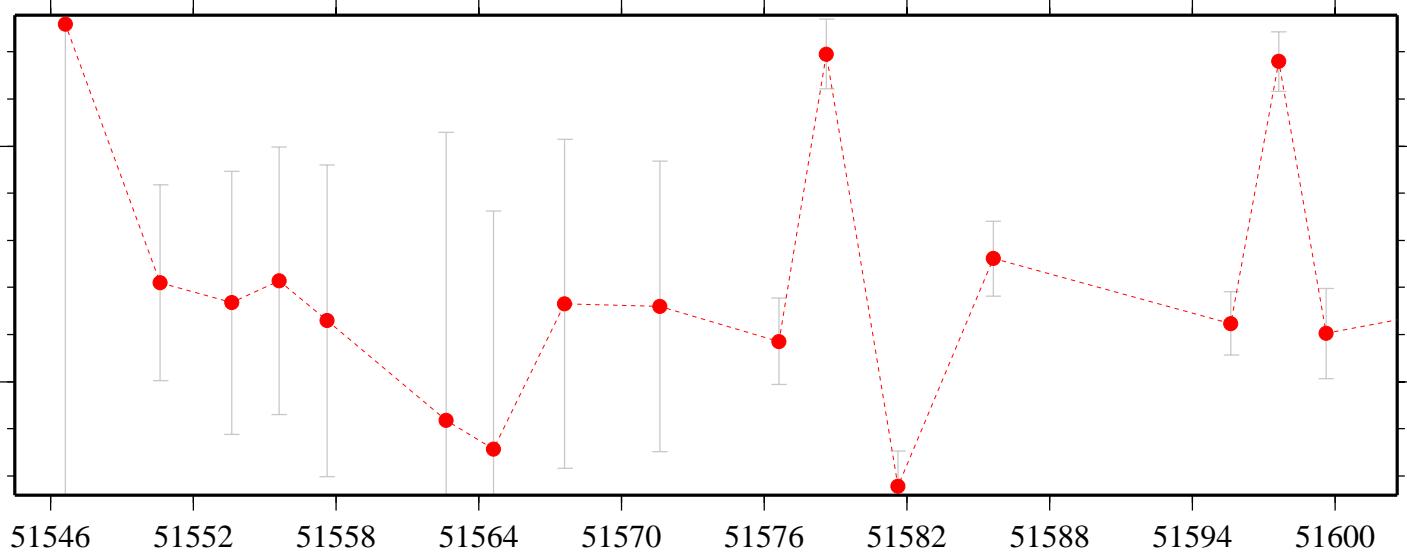
# USNO(d) - PTB

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.5000		7.7	36.081				-28.4		0.9	0.014
51576.6160	5.6	12.2	36.548		-6.6	-31.0	-24.4	0.9	1.2	0.021
51577.5000		10.5							0.9	
51578.6160	12.8	9.6	33.615		3.1	-20.8	-24.0	0.7	0.9	0.020
51579.5000		12.0	34.117				-22.2		0.8	0.019
51580.5000		15.1	33.968				-18.8		1.3	0.639
51581.6160	6.4	17.9	34.708		-11.5	-28.3	-16.8	0.6	1.0	0.020
51582.5000		13.6	36.504				-22.9		1.2	0.021
51583.5000		18.8	37.560				-18.8		1.2	0.026
51584.5000		16.3	37.392				-21.0		1.1	0.009
51585.6160	10.3	14.1	37.865		-3.8	-27.5	-23.7	0.5	1.2	0.039
51586.5000		7.1	37.944				-30.9		1.8	0.014
51587.5000		16.2							0.8	
51588.5000		17.8	37.947				-20.1		1.3	0.015
51589.5000		15.5	38.148				-22.7		0.8	0.019
51590.5000		14.3	38.544				-24.3		1.3	0.019
51591.5000		14.2	38.301				-24.1		1.3	0.013
51592.5000		14.4	38.017				-23.6		0.8	0.043
51593.5000		13.3	36.132				-22.8		1.2	0.018
51594.5000		11.7	36.985				-25.3		1.3	0.026
51595.6160	9.5	15.5	38.459		-6.0	-28.9	-22.9	0.4	1.0	0.018
51596.5000		14.7	38.652				-23.9		1.2	0.013
51597.6160	14.2	11.4	37.408		2.9	-23.2	-26.0	0.4	0.9	0.029
51598.5000		15.7	37.101				-21.4		1.7	0.024
51599.6160	7.2	13.6	35.931		-6.4	-28.7	-22.3	0.5	1.4	0.008
51600.5000		12.0							0.9	
51601.5000		10.4	34.629				-24.2		1.7	0.014
51602.6160	4.6	10.5	31.701		-5.9	-27.1	-21.2	0.9	1.5	0.022

The ADJUSTMENTS column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

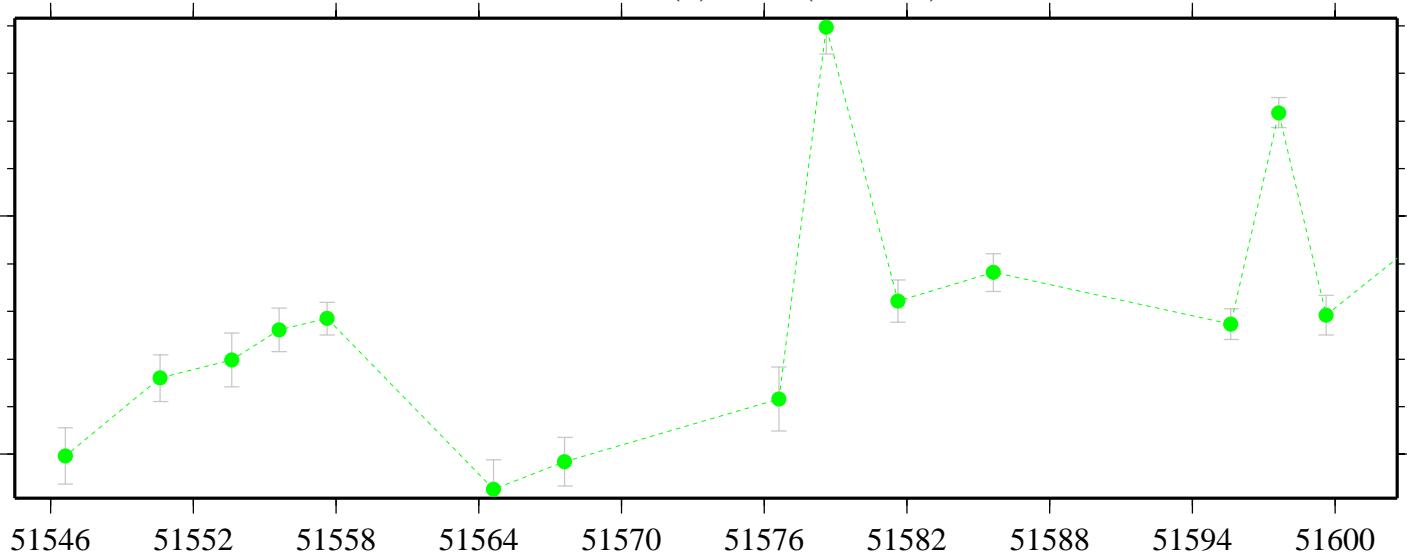
USNO(d)-PTB (TW-CV)

NANOSECONDS



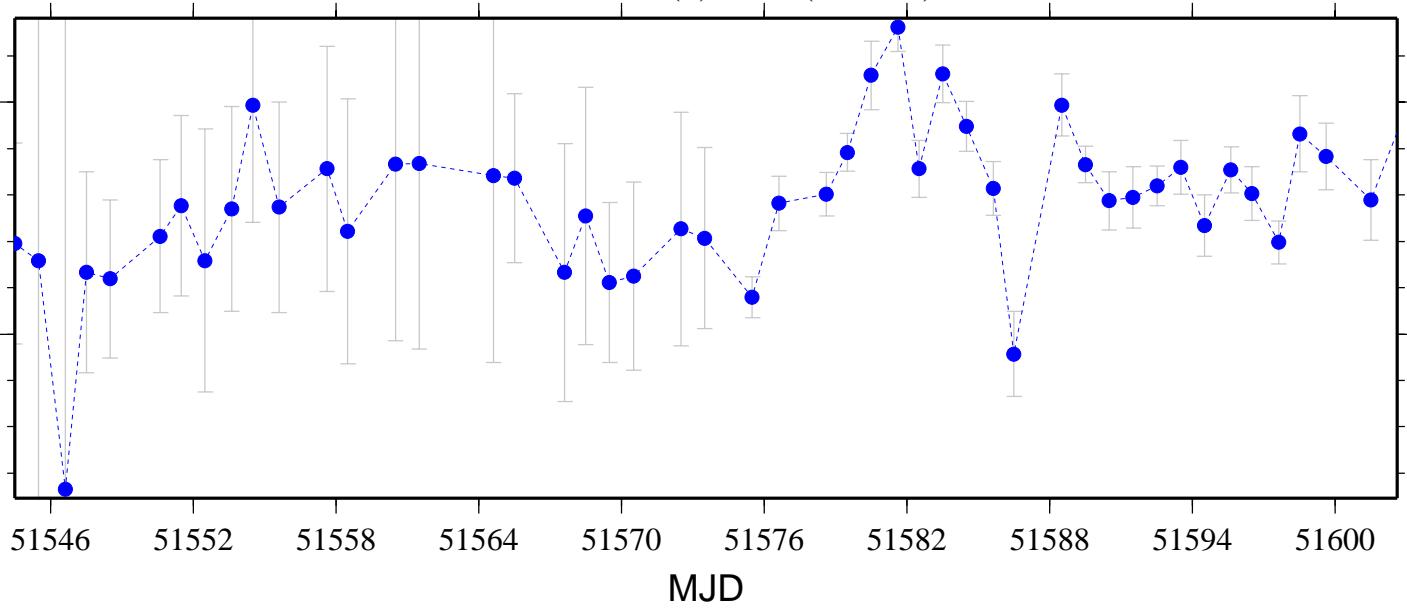
USNO(d)-PTB (TW-CP)

NANOSECONDS



USNO(d)-PTB (CV-CP)

NANOSECONDS



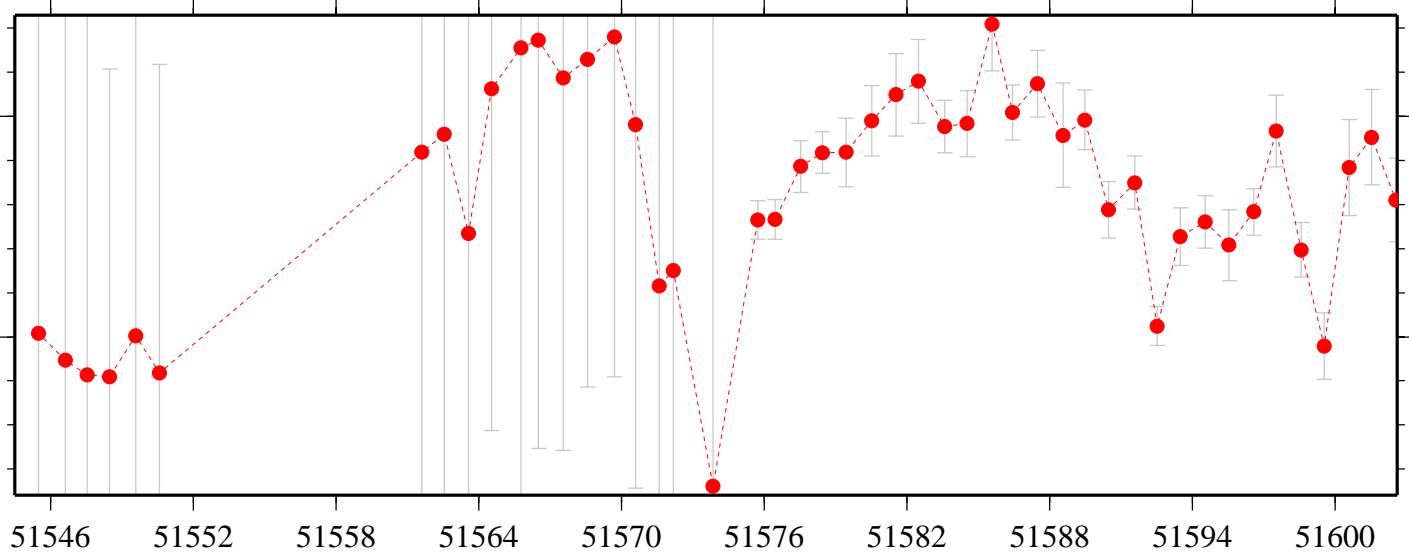
# USNO(e) - AMC

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.7229	-0.1	-58.7	0.905		58.6	-1.0	-59.6	0.1	0.2	0.005
51576.4525	-0.1	-58.7	0.995		58.6	-1.1	-59.7	0.2	0.2	0.005
51577.5344	-0.2	-59.5			59.3			0.1	0.3	
51578.4525	-0.4	-59.9	0.919		59.5	-1.3	-60.8	0.1	0.2	0.002
51579.4302	-0.5	-60.0	1.186		59.5	-1.7	-61.2	0.2	0.4	0.004
51580.5143	0.0	-59.9	2.126		59.9	-2.1	-62.1	0.1	0.5	0.682
51581.5344	-0.1	-60.4	1.115		60.3	-1.3	-61.5	0.1	0.5	0.004
51582.4719	-0.2	-60.7			60.5			0.1	0.6	
51583.5775	-0.1	-60.0	0.726		59.9	-0.8	-60.7	0.1	0.3	0.002
51584.5347	-0.2	-60.1	0.649		59.9	-0.9	-60.8	0.1	0.4	0.003
51585.5771	-0.3	-61.6	0.525		61.2	-0.9	-62.1	0.1	0.6	0.003
51586.4306	-0.3	-60.3	0.408		60.1	-0.7	-60.7	0.1	0.4	0.003
51587.4716	-0.4	-60.8	0.202		60.4	-0.6	-61.0	0.1	0.4	0.002
51588.5549	-0.8	-60.6	-0.134		59.7	-0.7	-60.4	0.1	0.7	0.003
51589.4722	-0.8	-60.7	-0.063	+ 830.702CP	59.9	-0.7	-60.6	0.1	0.4	0.004
51590.4719	-1.4	-60.1	-0.096		58.7	-1.3	-60.0	0.2	0.3	0.003
51591.5611	-1.2	-60.3	0.054		59.1	-1.2	-60.3	0.1	0.3	0.003
51592.5136	-1.4	-58.5	0.169		57.1	-1.6	-58.7	0.1	0.2	0.002
51593.4934	-1.8	-60.2	0.149		58.4	-2.0	-60.3	0.2	0.3	0.004
51594.5365	-1.4	-59.9	0.372		58.6	-1.7	-60.3	0.1	0.3	0.004
51595.5344	-1.4	-59.6	0.572		58.2	-2.0	-60.2	0.1	0.5	0.004
51596.5761	-1.4	-60.1	0.496		58.7	-1.9	-60.6	0.1	0.3	0.003
51597.5146	-1.6	-61.4	0.379		59.8	-1.9	-61.7	0.1	0.5	0.003
51598.5754	-1.9	-60.1	0.427	- 1955.090CP	58.2	-2.3	-60.5	0.1	0.4	0.003
51599.5344	-1.9	-58.8	0.453		56.9	-2.4	-59.2	0.1	0.4	0.008
51600.5768	-1.1	-60.4	0.463		59.3	-1.6	-60.9	0.1	0.6	0.003
51601.5344	-1.4	-61.2	0.483		59.7	-1.9	-61.6	0.1	0.6	0.003
51602.5552	-1.6	-60.5	0.242		58.9	-1.8	-60.7	0.1	0.6	0.003

The ADJUSTMENTS column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

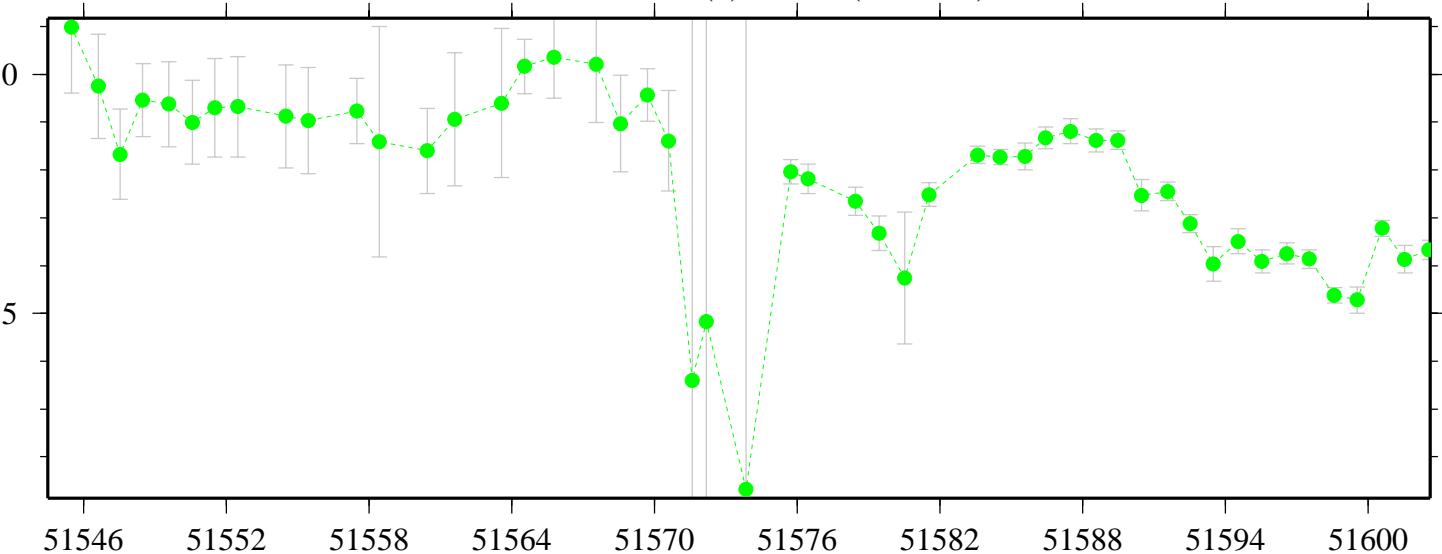
### USNO(e)-AMC (TW-CV)

NANOSECONDS



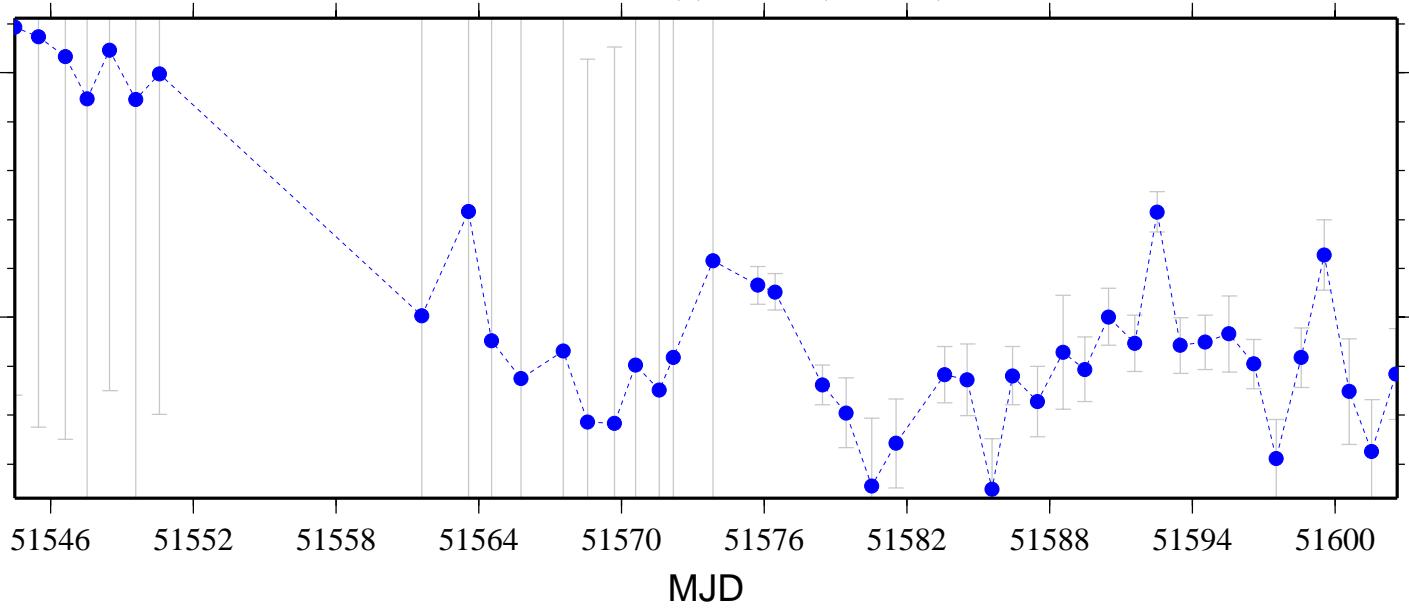
### USNO(e)-AMC (TW-CP)

NANOSECONDS



### USNO(e)-AMC (CV-CP)

NANOSECONDS



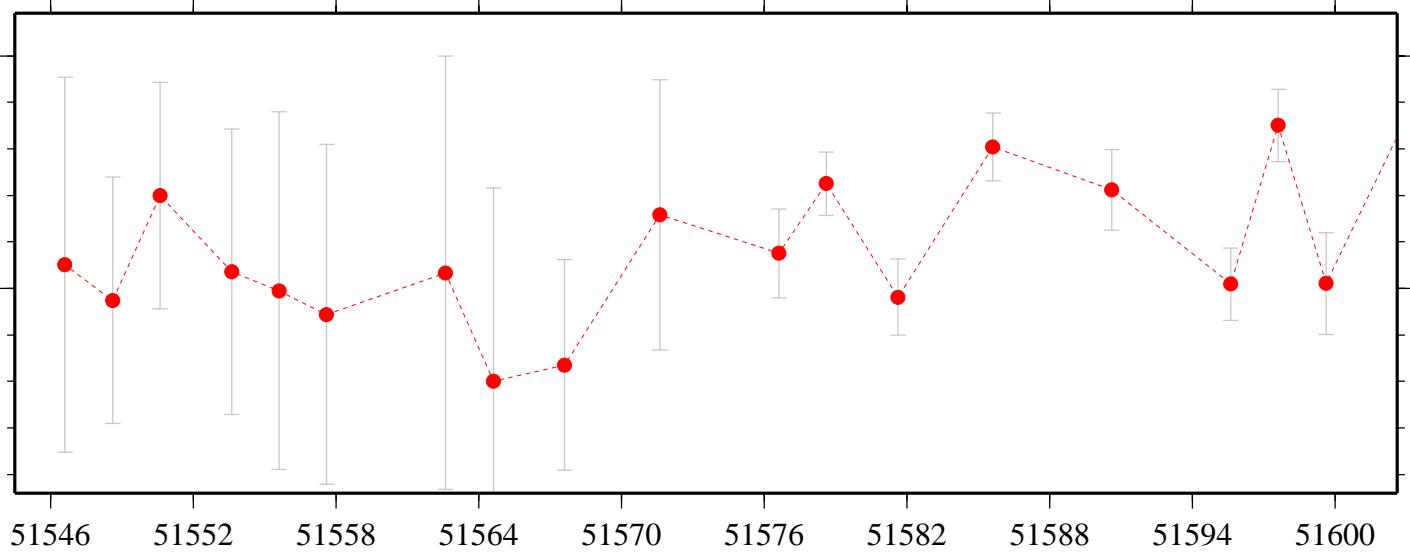
## USNO(f) - NPL

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)			
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP	
51575.5000		95.8	-7.485					103.3		1.2	0.005
51576.6097	89.6	96.8	-8.101			-7.2	97.7	104.9	0.3	1.6	0.009
51577.5000		95.7								1.3	
51578.6097	89.3	94.0	-9.549			-4.7	98.9	103.5	0.4	1.1	0.007
51579.5000		97.8	-10.011					107.8		1.3	0.006
51580.5000		97.1	-9.615					106.7		1.2	2.483
51581.6097	88.2	97.0	-11.569			-8.8	99.7	108.6	0.3	1.4	0.007
51582.5000		93.7								1.5	
51583.5000		97.8	-12.905					110.7		1.6	0.006
51584.5000		93.9	-13.572					107.5		1.1	0.008
51585.6097	86.9	90.2	-14.690			-3.3	101.6	104.9	0.4	1.2	0.005
51586.5000		80.0	-15.298					95.3		1.7	0.005
51587.5000		90.1	-16.407					106.5		0.8	0.003
51588.5000		90.7	-17.555					108.2		1.5	0.003
51589.5000		88.2	-18.367					106.6		1.1	0.006
51590.6097	82.1	87.0	-18.676			-4.9	100.8	105.7	0.5	1.4	0.021
51591.5000		85.1	-18.891					104.0		1.1	0.006
51592.5000		85.6	-19.906					105.5		1.2	0.005
51593.5000		82.4	-21.168					103.6		1.5	0.008
51594.5000		79.7	-22.393					102.1		1.6	0.006
51595.6097	73.9	82.3	-23.827			-8.3	97.7	106.1	0.4	1.3	0.009
51596.5000		79.6	-25.296					104.9		1.5	0.006
51597.6096	70.5	73.0	-26.987			-2.5	97.4	100.0	0.5	1.2	0.004
51598.5000		76.1	-28.401					104.5		1.8	0.005
51599.6097	67.4	75.7	-30.153			-8.3	97.5	105.9	0.4	1.8	0.014
51600.5000		71.9	-31.809					103.8		1.1	0.003
51601.5000		69.2	-33.341					102.5		1.5	0.003
51602.6097	62.9	65.9	-35.254			-2.9	98.2	101.1	0.4	1.7	0.003

The **ADJUSTMENTS** column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

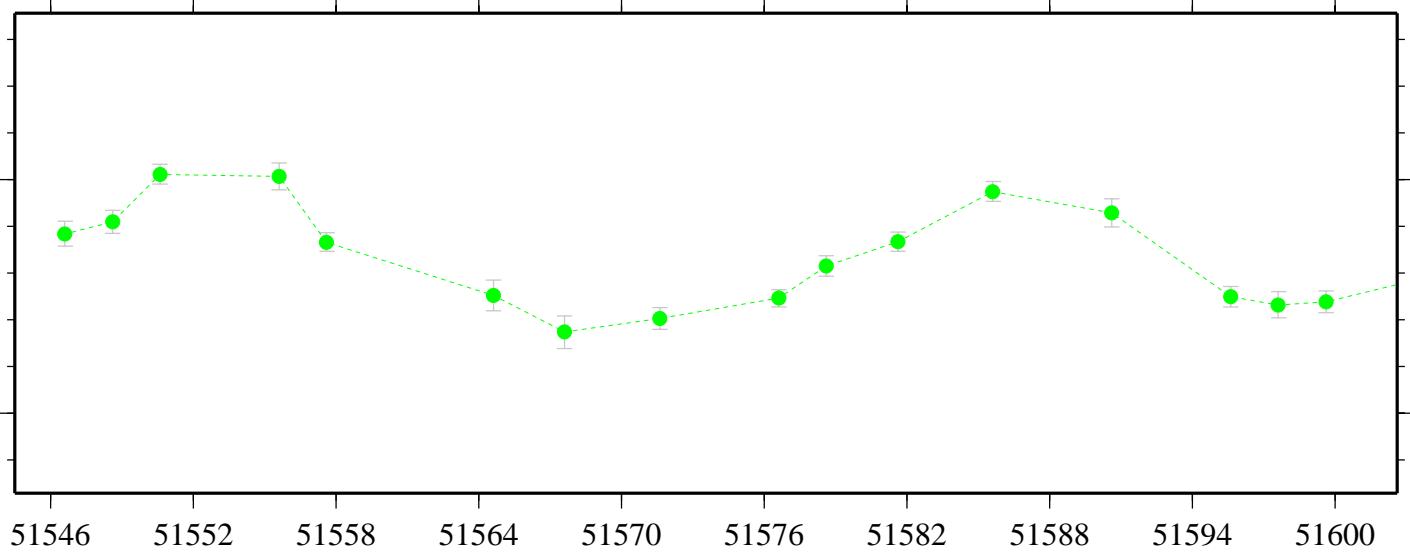
### USNO(f)-NPL (TW-CV)

NANOSECONDS



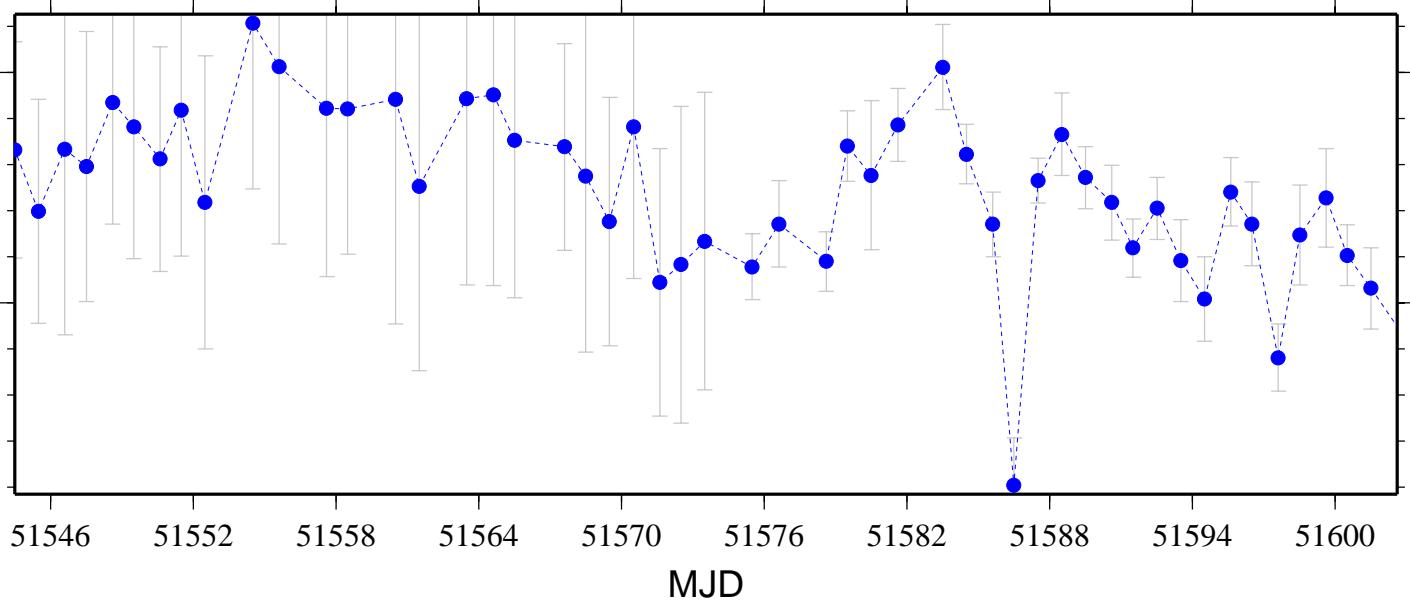
### USNO(f)-NPL (TW-CP)

NANOSECONDS



### USNO(f)-NPL (CV-CP)

NANOSECONDS



x and y-axes are same scale

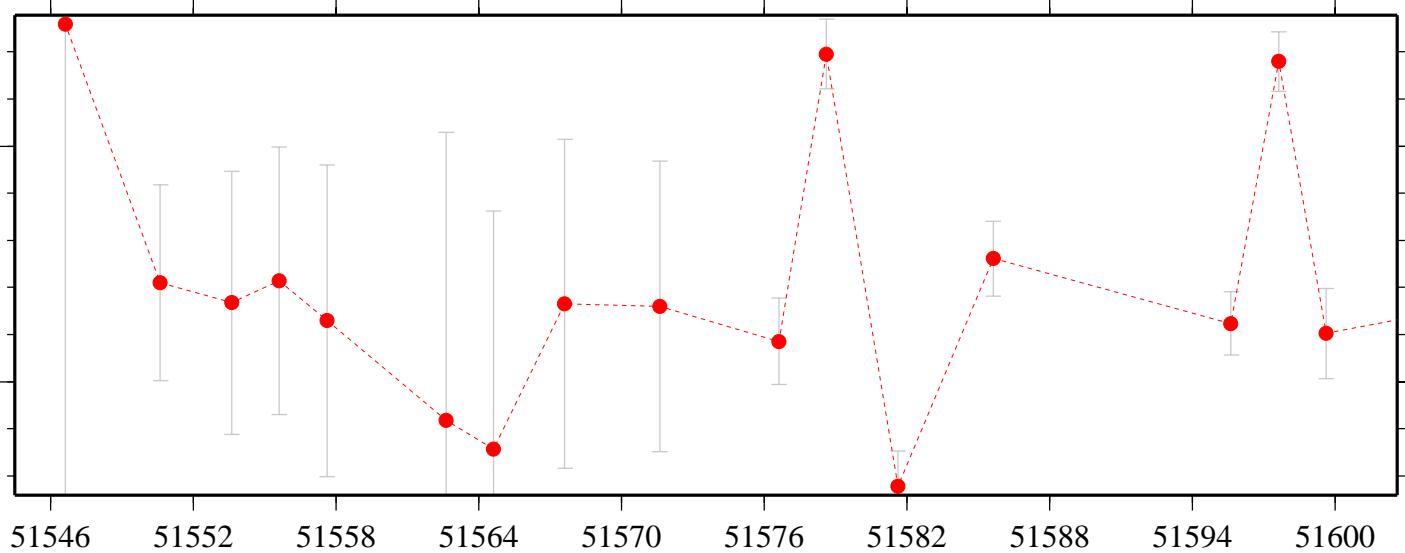
# USNO(f) - PTB

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.5000		7.7	37.555				-29.9		0.9	0.013
51576.6160	5.6	12.2	38.178		-6.6	-32.6	-26.0	0.9	1.2	0.023
51577.5000		10.5							0.9	
51578.6160	12.8	9.6	35.467		3.1	-22.7	-25.8	0.7	0.9	0.020
51579.5000		12.0	36.166				-24.2		0.8	0.018
51580.5000		15.1	37.112				-22.0		1.3	1.040
51581.6160	6.4	17.9	37.172		-11.5	-30.8	-19.2	0.6	1.0	0.020
51582.5000		13.6							1.2	
51583.5000		18.8	39.830				-21.1		1.2	0.026
51584.5000		16.3	39.707				-23.4		1.1	0.009
51585.6160	10.3	14.1	40.237		-3.8	-29.9	-26.1	0.5	1.2	0.038
51586.5000		7.1	40.285				-33.2		1.8	0.014
51587.5000		16.2							0.8	
51588.5000		17.8	40.399				-22.6		1.3	0.014
51589.5000		15.5	40.564				-25.1		0.8	0.019
51590.5000		14.3	41.000				-26.7		1.3	0.019
51591.5000		14.2	40.765				-26.6		1.3	0.014
51592.5000		14.4	40.585				-26.2		0.8	0.043
51593.5000		13.3	38.875				-25.5		1.2	0.018
51594.5000		11.7	39.966				-28.3		1.3	0.026
51595.6160	9.5	15.5	41.541		-6.0	-32.0	-26.0	0.4	1.0	0.018
51596.5000		14.7	41.689				-27.0		1.2	0.013
51597.6160	14.2	11.4	40.530		2.9	-26.3	-29.2	0.4	0.9	0.028
51598.5000		15.7	40.209				-24.5		1.7	0.024
51599.6160	7.2	13.6	39.022		-6.4	-31.8	-25.4	0.5	1.4	0.015
51600.5000		12.0							0.9	
51601.5000		10.4	37.491				-27.1		1.7	0.014
51602.6160	4.6	10.5	34.847		-5.9	-30.3	-24.4	0.9	1.5	0.022

The **ADJUSTMENTS** column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

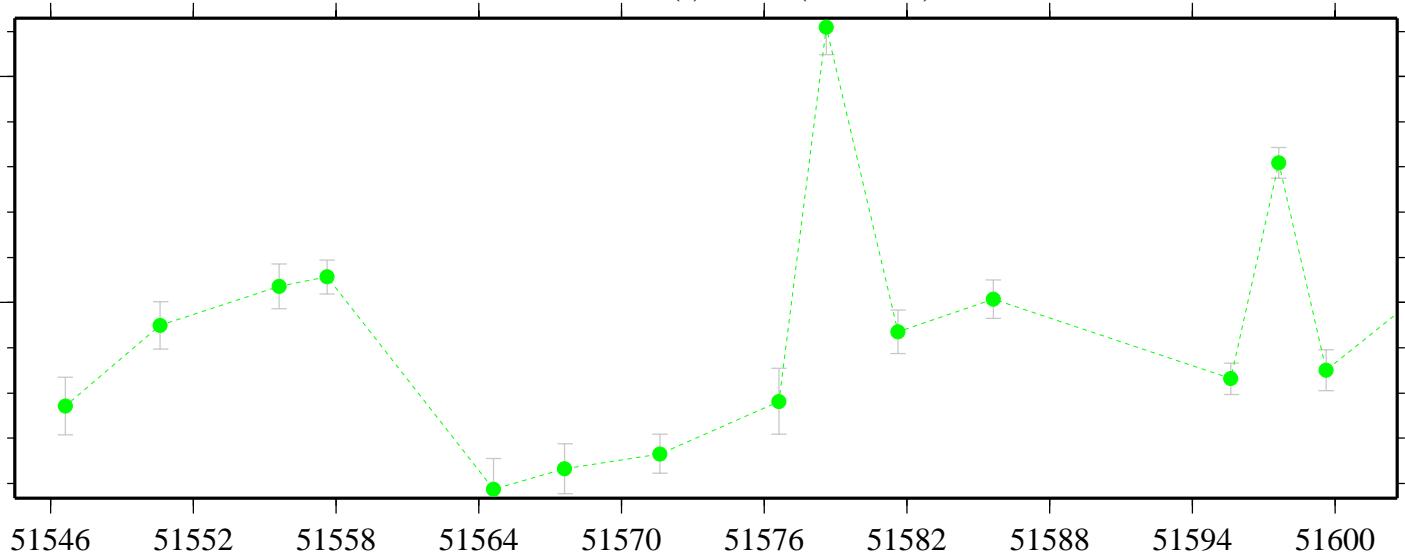
USNO(f)-PTB (TW-CV)

NANOSECONDS



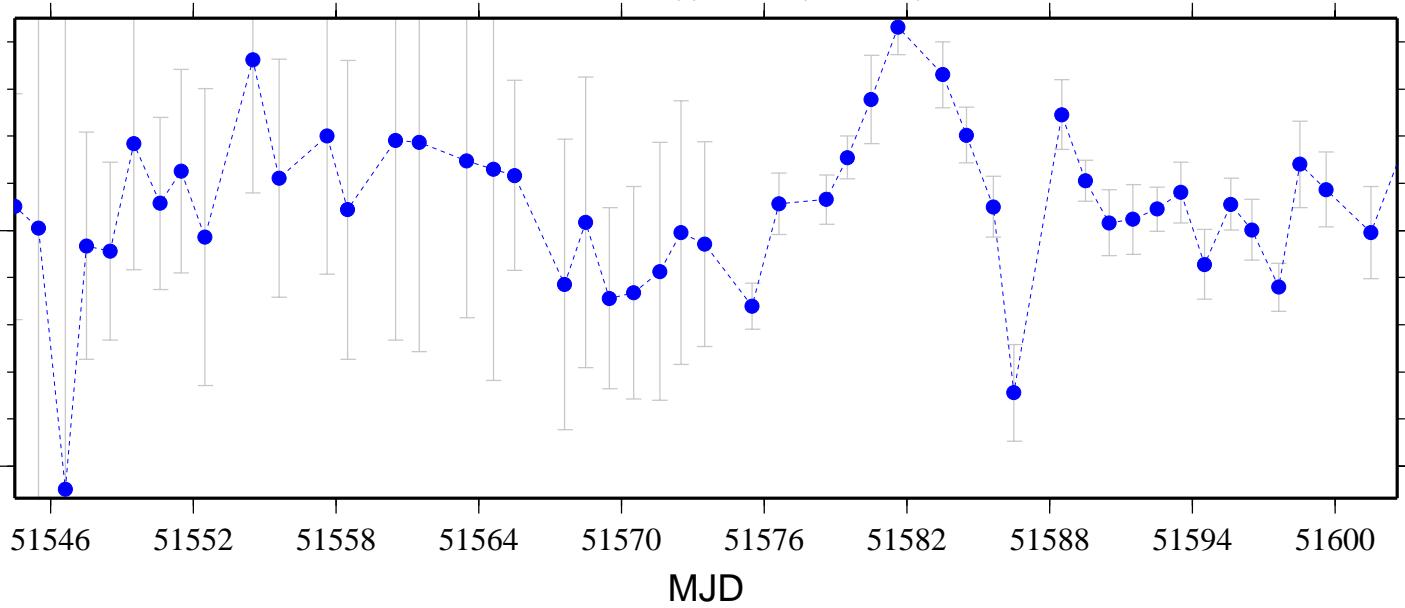
USNO(f)-PTB (TW-CP)

NANOSECONDS



USNO(f)-PTB (CV-CP)

NANOSECONDS



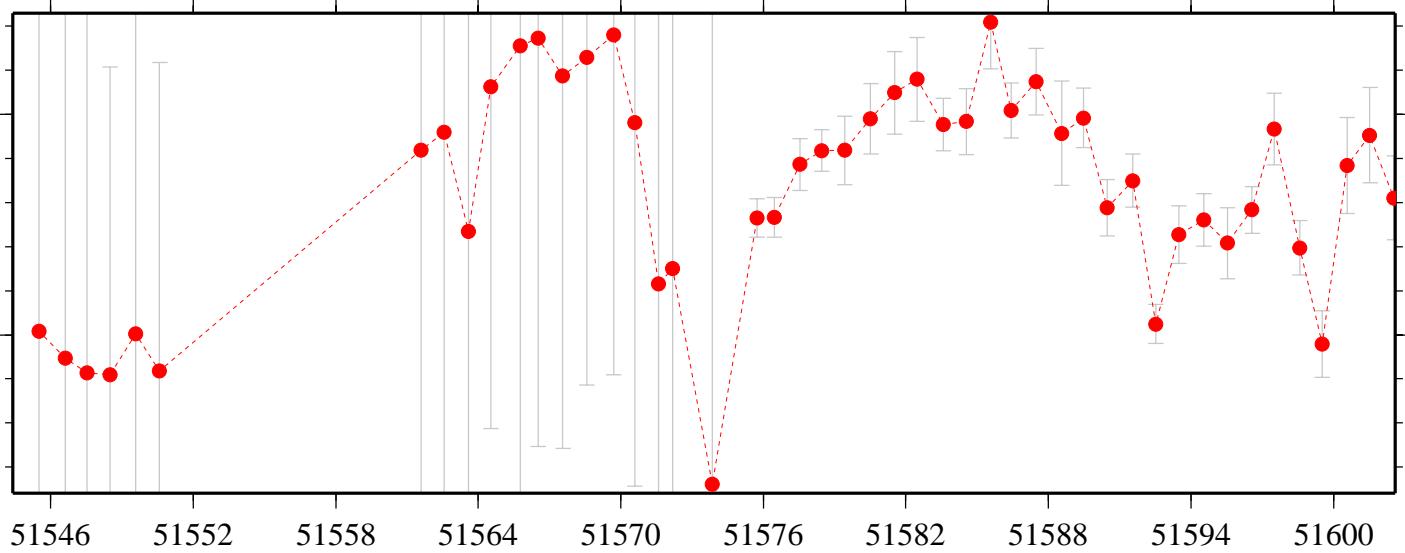
# USNO(g) - AMC

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.7229	-0.1	-58.7	1.140		58.6	-1.3	-59.8	0.1	0.2	0.007
51576.4525	-0.1	-58.7	1.251		58.6	-1.4	-59.9	0.2	0.2	0.007
51577.5344	-0.2	-59.5			59.3			0.1	0.3	
51578.4525	-0.4	-59.9	0.888		59.5	-1.3	-60.8	0.1	0.2	0.003
51579.4302	-0.5	-60.0	1.161		59.5	-1.6	-61.1	0.2	0.4	0.005
51580.5143	0.0	-59.9	2.507		59.9	-2.5	-62.4	0.1	0.5	0.379
51581.5344	-0.1	-60.4	0.878		60.3	-1.0	-61.3	0.1	0.5	0.005
51582.4719	-0.2	-60.7	0.885		60.5	-1.1	-61.6	0.1	0.6	0.007
51583.5775	-0.1	-60.0	0.665		59.9	-0.8	-60.6	0.1	0.3	0.006
51584.5347	-0.2	-60.1	0.428		59.9	-0.6	-60.5	0.1	0.4	0.009
51585.5771	-0.3	-61.6	0.223		61.2	-0.6	-61.8	0.1	0.6	0.006
51586.4306	-0.3	-60.3	0.381		60.1	-0.6	-60.7	0.1	0.4	0.004
51587.4716	-0.4	-60.8	0.304		60.4	-0.7	-61.1	0.1	0.4	0.003
51588.5549	-0.8	-60.6	-0.259		59.7	-0.6	-60.3	0.1	0.7	0.006
51589.4722	-0.8	-60.7			59.9			0.1	0.4	
51590.4719	-1.4	-60.1	-0.823	+ 830.481 CP	58.7	-0.5	-59.3	0.2	0.3	0.008
51591.5611	-1.2	-60.3	-0.698		59.1	-0.5	-59.6	0.1	0.3	0.006
51592.5136	-1.4	-58.5	-0.516		57.1	-0.9	-58.0	0.1	0.2	0.002
51593.4934	-1.8	-60.2	-0.686		58.4	-1.1	-59.5	0.2	0.3	0.006
51594.5365	-1.4	-59.9	-0.381		58.6	-1.0	-59.6	0.1	0.3	0.006
51595.5344	-1.4	-59.6	-0.187		58.2	-1.2	-59.4	0.1	0.5	0.006
51596.5761	-1.4	-60.1	-0.362		58.7	-1.0	-59.7	0.1	0.3	0.010
51597.5146	-1.6	-61.4	-0.583		59.8	-1.0	-60.8	0.1	0.5	0.009
51598.5754	-1.9	-60.1	-0.958	- 1955.197 CP	58.2	-0.9	-59.1	0.1	0.4	0.006
51599.5344	-1.9	-58.8	-0.823		56.9	-1.1	-58.0	0.1	0.4	0.011
51600.5768	-1.1	-60.4	-0.401		59.3	-0.7	-60.0	0.1	0.6	0.004
51601.5344	-1.4	-61.2	-0.270		59.7	-1.2	-60.9	0.1	0.6	0.005
51602.5552	-1.6	-60.5			58.9			0.1	0.6	

The ADJUSTMENTS column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

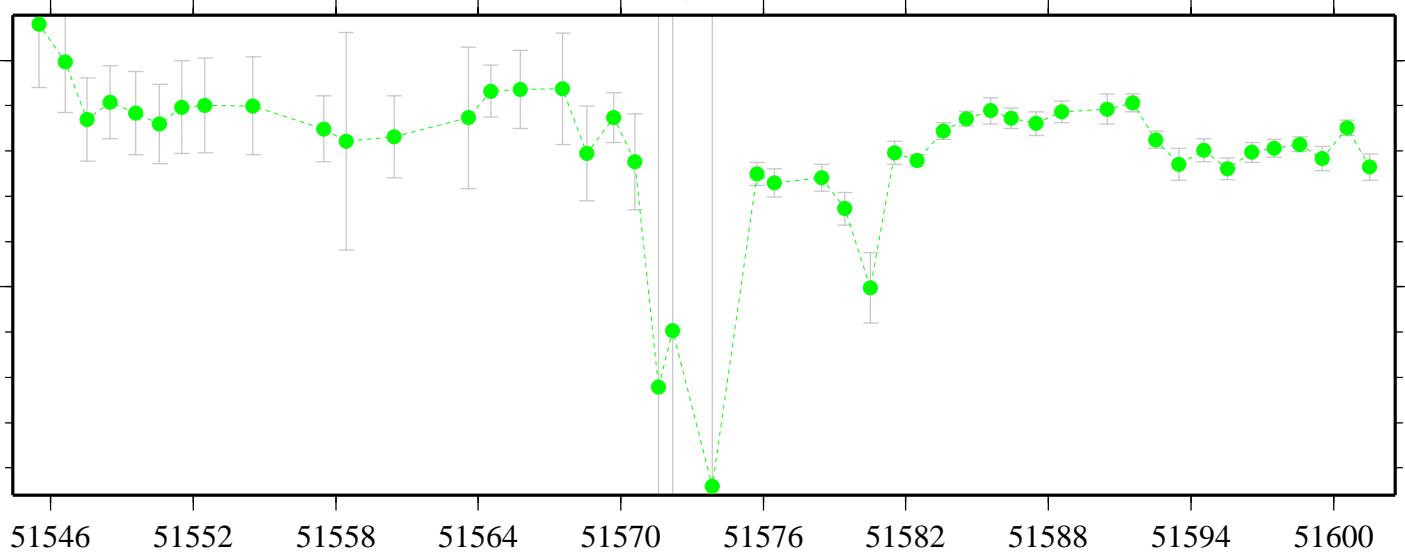
USNO(g)-AMC (TW-CV)

NANOSECONDS



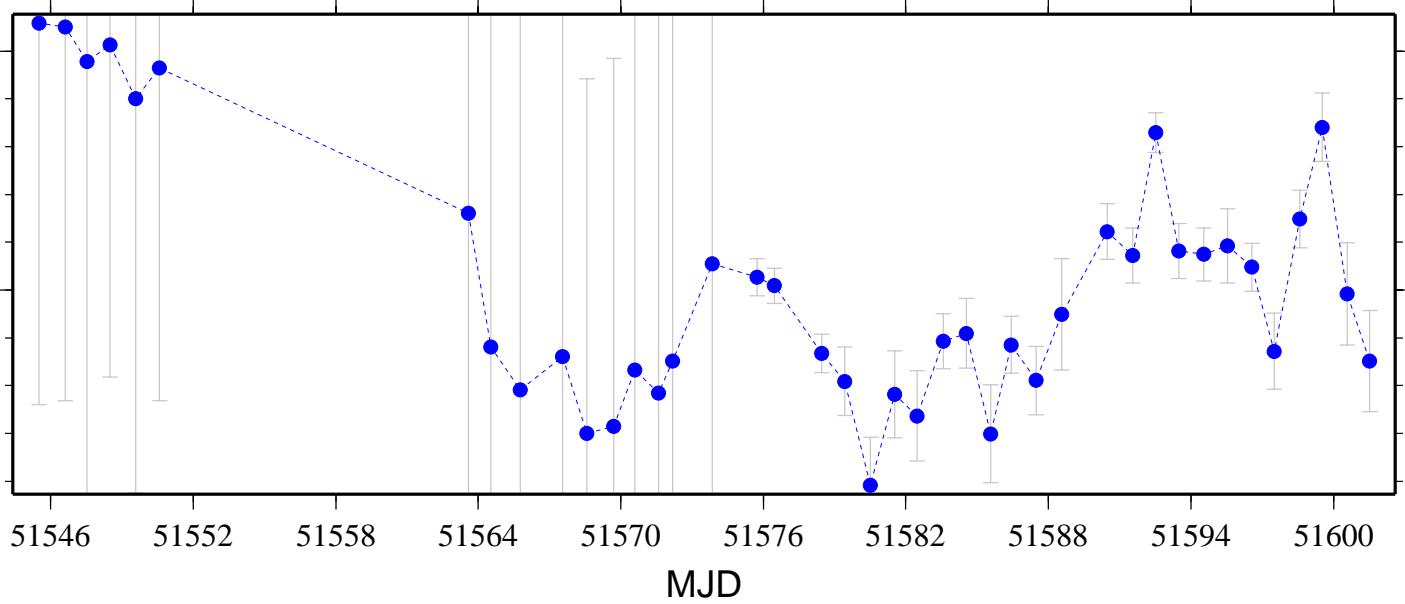
USNO(g)-AMC (TW-CP)

NANOSECONDS



USNO(g)-AMC (CV-CP)

NANOSECONDS



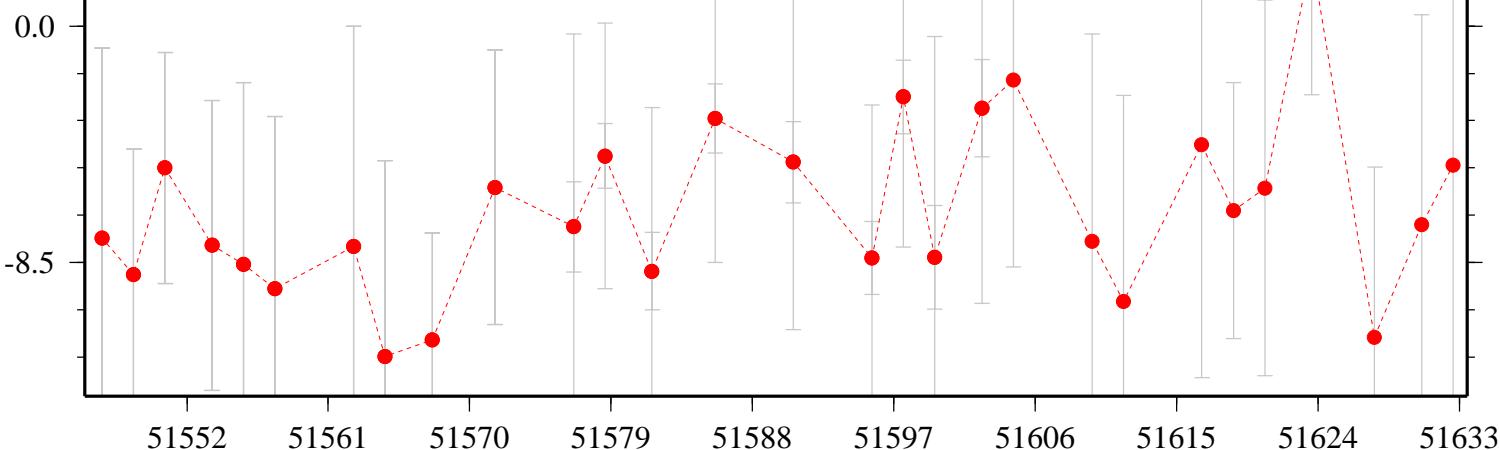
# USNO(h) - NPL

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)			
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP	
51575.5000		95.8	-6.966					102.8		1.2	0.006
51576.6097	89.6	96.8	-7.599			-7.2	97.2	104.4	0.3	1.6	0.011
51577.5000		95.7								1.3	
51578.6097	89.3	94.0	-9.333			-4.7	98.6	103.3	0.4	1.1	0.007
51579.5000		97.8	-9.777					107.5		1.3	0.007
51580.5000		97.1	-7.436					104.5		1.2	2.222
51581.6097	88.2	97.0	-11.571			-8.8	99.7	108.6	0.3	1.4	0.007
51582.5000		93.7	-11.849					105.5		1.5	0.012
51583.5000		97.8	-12.678					110.5		1.6	0.009
51584.5000		93.9	-13.502					107.4		1.1	0.015
51585.6097	86.9	90.2	-14.734			-3.3	101.6	104.9	0.4	1.2	0.005
51586.5000		80.0	-15.052					95.0		1.7	0.007
51587.5000		90.1	-16.047					106.1		0.8	0.004
51588.5000		90.7	-17.393					108.1		1.5	0.005
51589.5000		88.2								1.1	
51590.6097	82.1	87.0	-19.002			-4.9	101.1	106.0	0.5	1.4	0.017
51591.5000		85.1	-19.180					104.3		1.1	0.008
51592.5000		85.6	-20.113					105.7		1.2	0.005
51593.5000		82.4	-21.525					103.9		1.5	0.009
51594.5000		79.7	-22.663					102.4		1.6	0.008
51595.6097	73.9	82.3	-24.116			-8.3	98.0	106.4	0.4	1.3	0.010
51596.5000		79.6	-25.647					105.3		1.5	0.010
51597.6096	70.5	73.0	-27.509			-2.5	98.0	100.5	0.5	1.2	0.010
51598.5000		76.1	-29.181					105.3		1.8	0.004
51599.6097	67.4	75.7	-30.847			-8.3	98.2	106.6	0.4	1.8	0.012
51600.5000		71.9	-32.128					104.1		1.1	0.005
51601.5000		69.2	-33.504					102.7		1.5	0.004
51602.6097	62.9	65.9				-2.9			0.4	1.7	

The **ADJUSTMENTS** column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

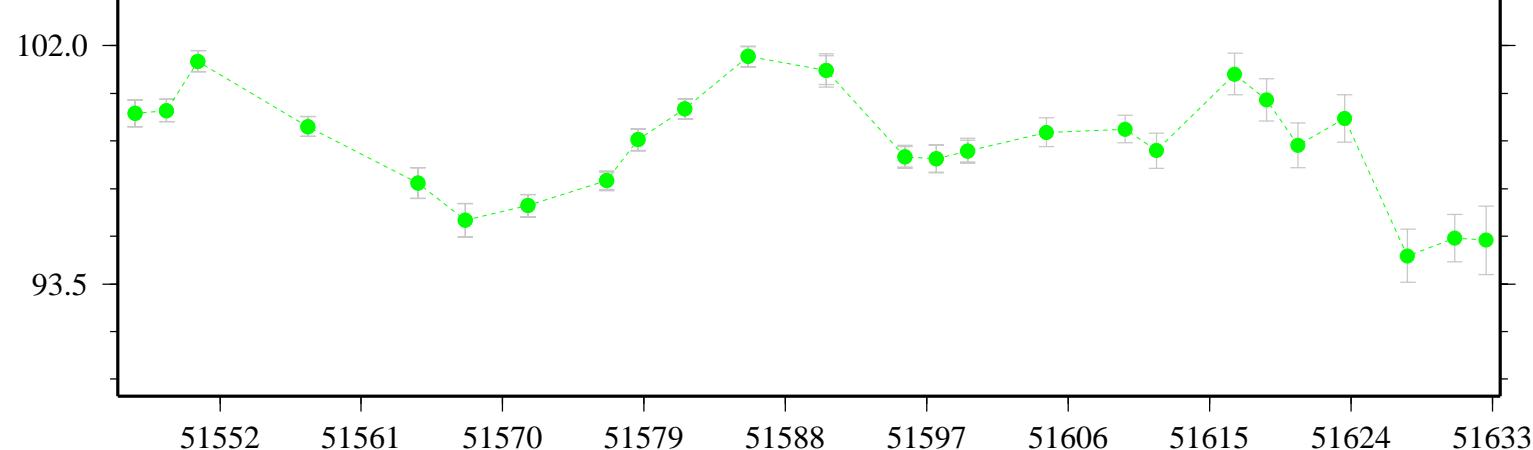
### USNO(h)-NPL (TW-CV)

NANOSECONDS



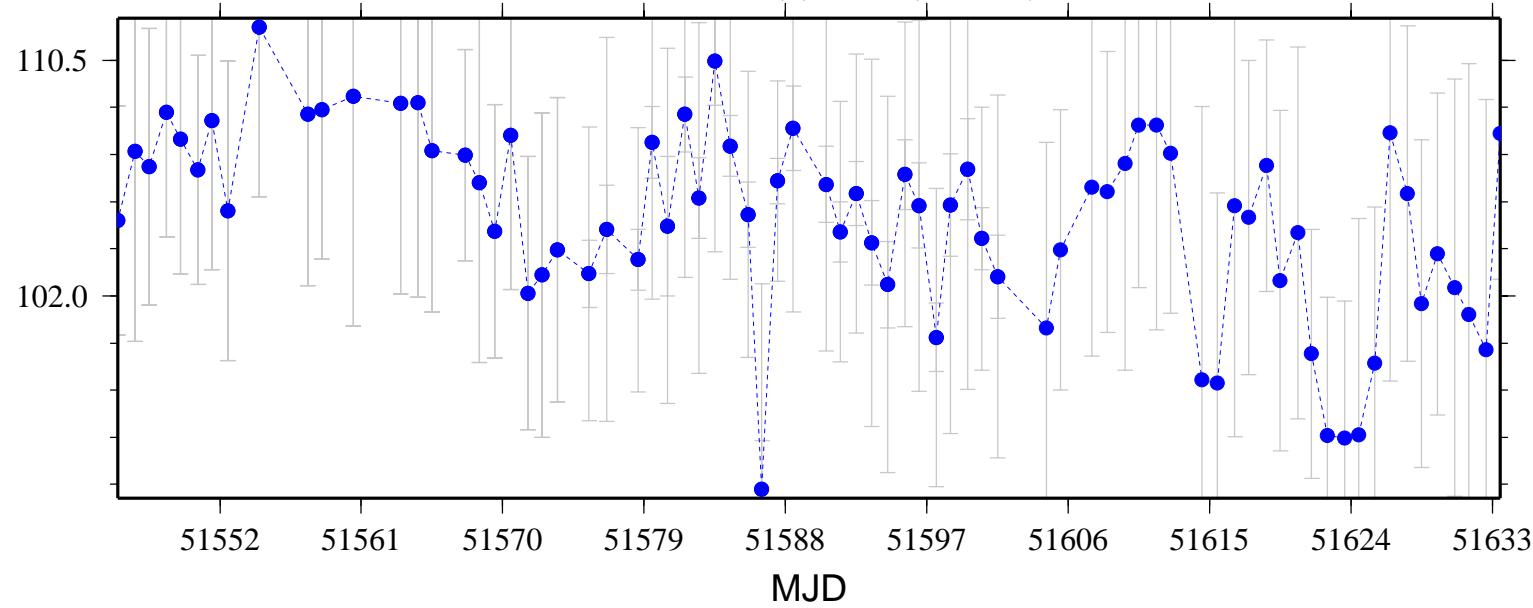
### USNO(h)-NPL (TW-CP)

NANOSECONDS



### USNO(h)-NPL (CV-CP)

NANOSECONDS



x and y-axes are same scale

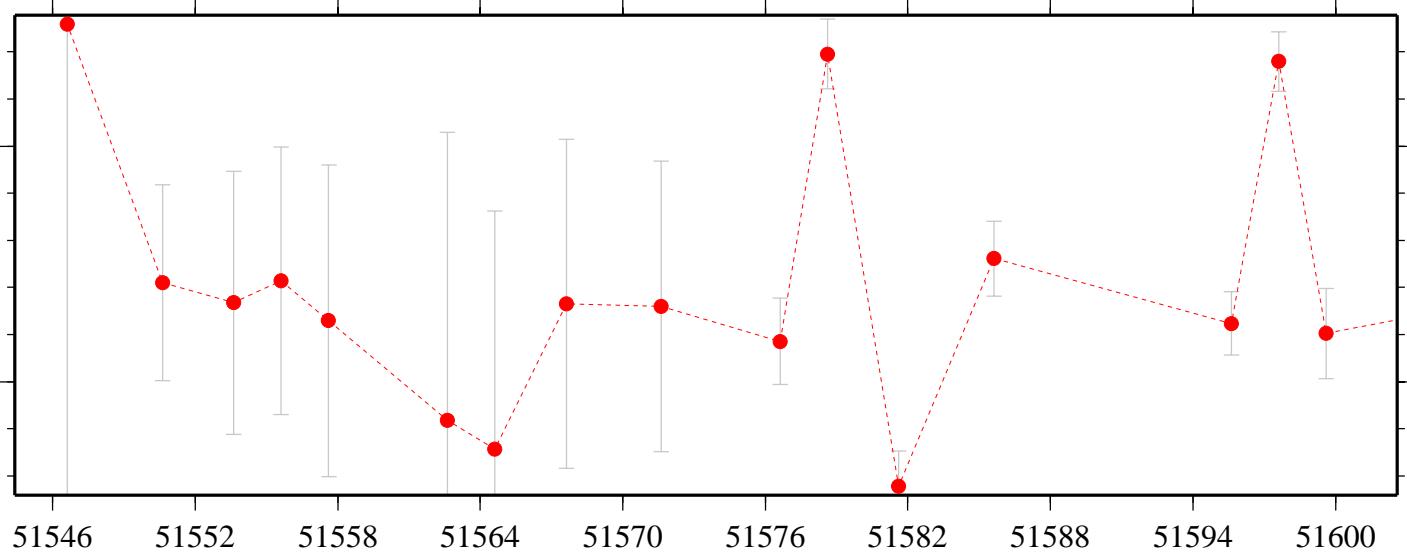
# USNO(h) - PTB

	TIME TRANS. 1-DAY AVE. (ns)			ADJUSTMENTS (ns)	TIME TRANS. DIFFERENCES (ns)			RMS SCATTER OF DAILY LINEAR FIT (ns)		
MJD	TW	CV	CP		TW-CV	TW-CP	CV-CP	TW	CV	CP
51575.5000		7.7	37.652				-30.0		0.9	0.014
51576.6160	5.6	12.2	38.256		-6.6	-32.7	-26.1	0.9	1.2	0.025
51577.5000		10.5							0.9	
51578.6160	12.8	9.6	35.260		3.1	-22.5	-25.6	0.7	0.9	0.020
51579.5000		12.0	35.978				-24.0		0.8	0.019
51580.5000		15.1	38.869				-23.7		1.3	0.732
51581.6160	6.4	17.9	36.746		-11.5	-30.4	-18.8	0.6	1.0	0.018
51582.5000		13.6	38.624				-25.0		1.2	0.024
51583.5000		18.8	39.635				-20.9		1.2	0.031
51584.5000		16.3	39.355				-23.0		1.1	0.010
51585.6160	10.3	14.1	39.771		-3.8	-29.4	-25.6	0.5	1.2	0.041
51586.5000		7.1	40.110				-33.0		1.8	0.016
51587.5000		16.2							0.8	
51588.5000		17.8	40.139				-22.3		1.3	0.015
51589.5000		15.5							0.8	
51590.5000		14.3	40.315				-26.0		1.3	0.020
51591.5000		14.2	40.054				-25.9		1.3	0.015
51592.5000		14.4	39.957				-25.5		0.8	0.043
51593.5000		13.3	38.096				-24.8		1.2	0.019
51594.5000		11.7	39.273				-27.6		1.3	0.029
51595.6160	9.5	15.5	40.829		-6.0	-31.3	-25.3	0.4	1.0	0.019
51596.5000		14.7	40.916				-26.2		1.2	0.015
51597.6160	14.2	11.4	39.583		2.9	-25.3	-28.2	0.4	0.9	0.035
51598.5000		15.7	39.008				-23.3		1.7	0.022
51599.6160	7.2	13.6	37.906		-6.4	-30.7	-24.3	0.5	1.4	0.012
51600.5000		12.0							0.9	
51601.5000		10.4	36.906				-26.5		1.7	0.014
51602.6160	4.6	10.5			-5.9			0.9	1.5	

The **ADJUSTMENTS** column indicates any manual adjustments (e.g. calibration) that have been applied to either TW, CV, or CP data. In particular, since CP data is currently obtained from non-calibrated systems, arbitrary offsets are often applied to CP data to keep column widths small.

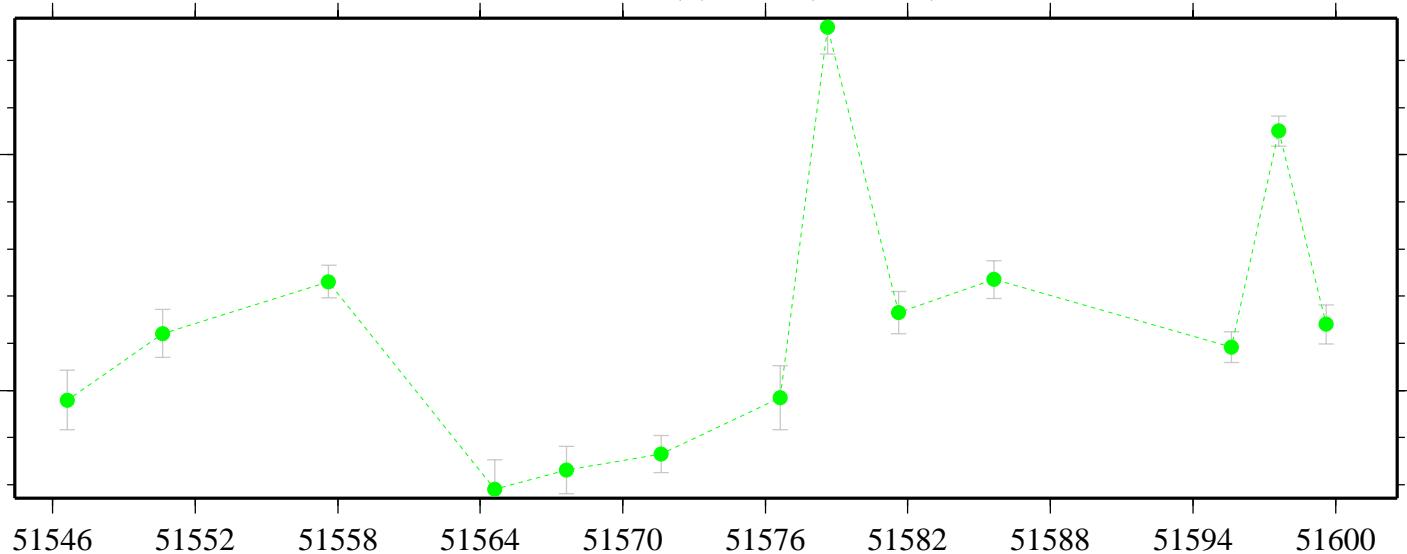
USNO(h)-PTB (TW-CV)

NANOSECONDS



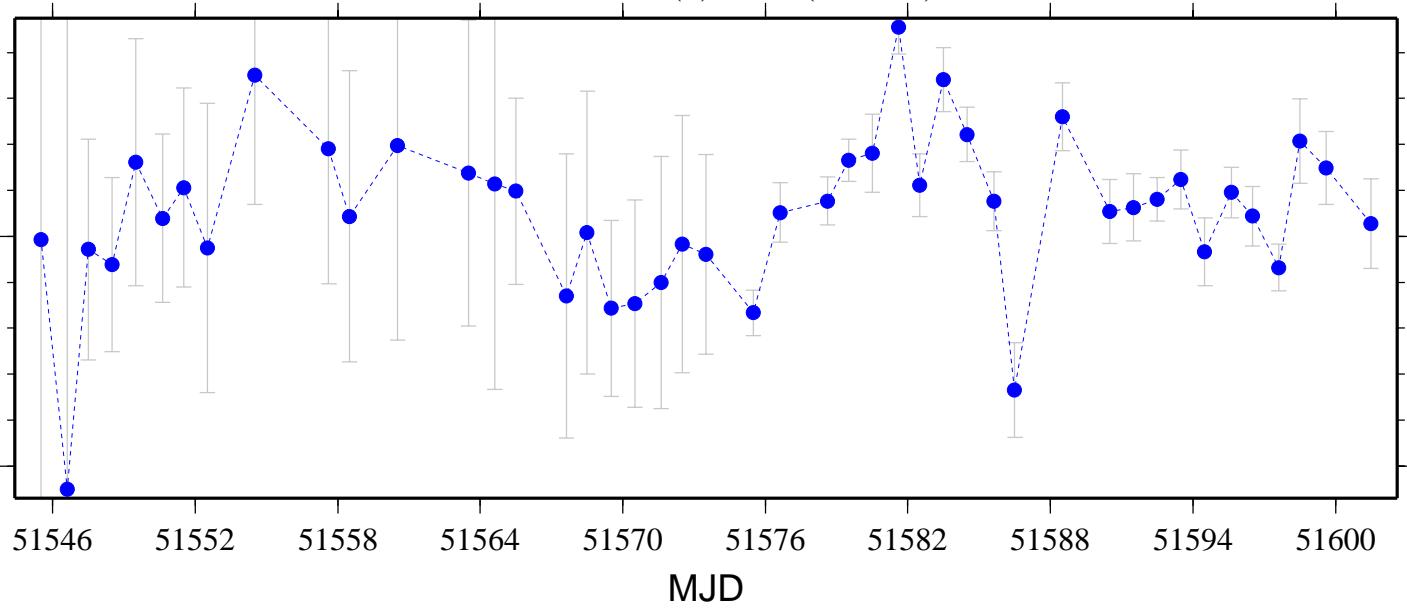
USNO(h)-PTB (TW-CP)

NANOSECONDS



USNO(h)-PTB (CV-CP)

NANOSECONDS



<b>AMC</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> AOATWT-1000  <b>antenna:</b> 1.8m-VSAT  <b>reference standard name:</b> UTC(USNOAMC(MC1))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CV</b>	<p><b>receiver name (local):</b> AOA2 SN113  <b>receiver model:</b> AOA-TTR4P  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNOAMC(MC1))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>AOA2 calibration history:</b></p> <p><b>NOTES:</b>      Receiver not calibrated.</p>
<b>CP</b>	<p><b>receiver name (local):</b> AMC2  <b>receiver model:</b> AOA SNR-12 ACT  <b>antenna:</b> AOAD-M_T  <b>reference standard name:</b> UTC(USNOAMC(MC1))  <b>reference standard type:</b> steered H-MASER</p> <p><b>LOGS:</b></p> <p>51589 14-Feb-00 receiver stopped tracking at 00:18; cause unknown      51598 15-Feb-00 <a href="#">clock reset</a></p> <p><b>NOTES:</b></p> <p>This is an IGS station (AMC2).</p>

<b>NPL</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> SATRE  <b>antenna:</b> 1.8m-VSAT  <b>reference standard name:</b> UTC(NPL)  <b>reference standard type:</b> H-MASER</p> <p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p>
<b>CV</b>	<p><b>receiver name (local):</b> xxx SN276  <b>receiver model:</b> AOA-TTR5A  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(NPL)  <b>reference standard type:</b> H-MASER</p> <p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p> <p>This receiver system has an arbitrary fixed offset from UTC(NPL) which has not been measured.</p>
<b>CP</b>	<p><b>receiver name (local):</b> NPLB  <b>receiver model:</b> Ashtech Z-XII3  <b>antenna:</b> ASH700718B  <b>reference standard name:</b> UTC(NPL)  <b>reference standard type:</b> H-MASER</p> <p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p> <p>This receiver system has a fixed offset of UTC(NPL)-1pps_input = (8441+/-1)ns, subject to temperature variations on the 200m cable joining two buildings.</p>

<b>PTB</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> SATRE  <b>antenna:</b> 1.8m-VSAT  <b>reference standard name:</b> UTC(PTB)  <b>reference standard type:</b> CESIUM(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CV</b>	<p><b>Receiver name (local):</b> xxx xxx  <b>receiver model:</b> AOA-TTR5  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(PTB)  <b>reference standard type:</b> CESIUM(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CP</b>	<p><b>receiver name (local):</b> PTBA  <b>receiver model:</b> modified Ashtech Z-12T GeTT terminal  <b>antenna:</b> choke-ring  <b>reference standard name:</b> H2  <b>reference standard type:</b> H-MASER</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p> <p>This is a GeTT receiver. CP clock estimates at PTB are referenced to UTC(PTB) using data from an SRS620 time interval counter.</p>

<b>USNO(a)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> EACS-TWSTT-2000(sn#103)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CV</b>	<p><b>receiver name (local):</b> AOA1 SN12  <b>receiver model:</b> AOA-TTR4P  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>AOA1 calibration history:</b></p> <p><b>NOTES:</b>      Receiver not calibrated.</p>
<b>CP</b>	<p><b>receiver name (local):</b> USNO  <b>receiver model:</b> AOA SNR-12 ACT  <b>antenna:</b> AOAD-M_T  <b>reference standard name:</b> UTC(USNO(MC3))  <b>reference standard type:</b> steered H-MASER</p> <p><b>LOGS:</b></p> <p>51580 03-Feb-00 <a href="#">receiver stopped tracking at ~00:00</a>      51584 04-Feb-00 <a href="#">receiver restarted at ~12:30</a></p> <p><b>NOTES:</b></p> <p>CP clock estimates are referenced to UTC(USNO(MC2)) using data from an optic fiber link.</p>

<b>USNO(b)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> Mitrex-2500(sn#85006)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CV</b>	<p><b>receiver name (local):</b> TTR1 SN440  <b>receiver model:</b> AOA-TTR6  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>TTR1 calibration history:</b>  TTR1(SN440) delay change on MJD 50566 (04/28/97): Internal=68  TTR1(SN440) delay change on MJD 50973 (06/09/98): Internal=67  TTR1(SN440) delay change on MJD 51135 (11/18/98): Internal=68  TTR1(SN440) delay change on MJD 51260 (03/23/99): Internal=67</p> <p><b>NOTES:</b>  This is the primary USNO SPS common view receiver.</p>
<b>CP</b>	<p><b>receiver name (local):</b> USNO  <b>receiver model:</b> AOA SNR-12 ACT  <b>antenna:</b> AOAD-M_T  <b>reference standard name:</b> UTC(USNO(MC3))  <b>reference standard type:</b> steered H-MASER</p> <p><b>LOGS:</b></p> <p>51580 03-Feb-00 <a href="#">receiver stopped tracking at ~00:00</a>  51584 04-Feb-00 <a href="#">receiver restarted at ~12:30</a></p> <p><b>NOTES:</b></p> <p>CP clock estimates are referenced to UTC(USNO(MC2)) using data from an optic fiber link.</p>

<b>USNO(c)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> EACS-TWSTT-2000(sn#103)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p>
<b>CV</b>	<p><b>receiver name (local):</b> AOA1 SNxxx  <b>receiver model:</b> AOA-TTR4P  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b><u>LOGS:</u></b></p> <p><b>AOA1 calibration history:</b></p> <p><b><u>NOTES:</u></b>      Receiver not calibrated.</p>
<b>CP</b>	<p><b>receiver name (local):</b> USNB  <b>receiver model:</b> modified Ashtech Z-12T GeTT terminal  <b>antenna:</b>  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> steered H-MASER</p> <p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b>      This is a GeTT receiver.</p>

<b>USNO(d)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> Mitrex-2500(sn#85006)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CV</b>	<p><b>receiver name (local):</b> TTR1 SN440  <b>receiver model:</b> AOA-TTR6  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>TTR1 calibration history:</b>  TTR1(SN440) delay change on MJD 50566 (04/28/97): Internal=68  TTR1(SN440) delay change on MJD 50973 (06/09/98): Internal=67  TTR1(SN440) delay change on MJD 51135 (11/18/98): Internal=68  TTR1(SN440) delay change on MJD 51260 (03/23/99): Internal=67</p> <p><b>NOTES:</b>  This is the primary USNO SPS common view receiver.</p>
<b>CP</b>	<p><b>receiver name (local):</b> USNB  <b>receiver model:</b> modified Ashtech Z-12T GeTT terminal  <b>antenna:</b>  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> steered H-MASER</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b>  This is a GeTT receiver.</p>

<b>USNO(e)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> EACS-TWSTT-2000(sn#103)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p>
	<p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p>
<b>CV</b>	<p><b>receiver name (local):</b> AOA1 SNxxx  <b>receiver model:</b> AOA-TTR4P  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p>
	<p><b><u>LOGS:</u></b></p> <p><b>AOA1 calibration history:</b></p> <p><b><u>NOTES:</u></b>      Receiver not calibrated</p>
<b>CP</b>	<p><b>receiver name (local):</b> NIM1  <b>receiver model:</b> Ashtech Z-12  <b>antenna:</b> Geodetic 3  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> steered H-MASER</p>
	<p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p> <p>This receiver is owned by the National Imagery and Mapping Agency (NIMA)</p>

<b>USNO(f)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> Mitrex-2500(sn#85006)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p>
<b>CV</b>	<p><b>receiver name (local):</b> TTR1 SN440  <b>receiver model:</b> AOA-TTR6  <b>antenna:</b> XXX  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b><u>LOGS:</u></b></p> <p><b>TTR1 calibration history:</b>  TTR1(SN440) delay change on MJD 50566 (04/28/97): Internal=68  TTR1(SN440) delay change on MJD 50973 (06/09/98): Internal=67  TTR1(SN440) delay change on MJD 51135 (11/18/98): Internal=68  TTR1(SN440) delay change on MJD 51260 (03/23/99): Internal=67</p> <p><b><u>NOTES:</u></b>  This is the primary USNO SPS common view receiver.</p>
<b>CP</b>	<p><b>receiver name (local):</b> NIM1  <b>receiver model:</b> Ashtech Z-12  <b>antenna:</b> Geodetic 3  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> steered H-MASER</p> <p><b><u>LOGS:</u></b></p> <p><b><u>NOTES:</u></b></p> <p>This receiver is owned by the National Imagery and Mapping Agency (NIMA)</p>

<b>USNO(g)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> EACS-TWSTT-2000(sn#103)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CV</b>	<p><b>receiver name (local):</b> AOA1 SNxxx  <b>receiver model:</b> AOA-TTR4P  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>AOA1 calibration history:</b></p> <p><b>NOTES:</b>      Receiver not calibrated.</p>
<b>CP</b>	<p><b>receiver name (local):</b> NIM2  <b>receiver model:</b> Ashtech Z-12  <b>antenna:</b> Geodetic 3  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> steered H-MASER</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p> <p>This receiver is owned by the National Imagery and Mapping Agency (NIMA)</p>

<b>USNO(h)</b>	<b>Receiver System Hardware Information:</b>
<b>TW</b>	<p><b>modem model:</b> Mitrex-2500(sn#85006)  <b>antenna:</b> 4.6m-steerable-vertex  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p>
<b>CV</b>	<p><b>receiver name (local):</b> TTR1 SN440  <b>receiver model:</b> AOA-TTR6  <b>antenna:</b> xxx  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> H-MASER(steered)</p> <p><b>LOGS:</b></p> <p><b>TTR1 calibration history:</b>  TTR1(SN440) delay change on MJD 50566 (04/28/97): Internal=68  TTR1(SN440) delay change on MJD 50973 (06/09/98): Internal=67  TTR1(SN440) delay change on MJD 51135 (11/18/98): Internal=68  TTR1(SN440) delay change on MJD 51260 (03/23/99): Internal=67</p> <p><b>NOTES:</b>  This is the primary USNO SPS common view receiver.</p>
<b>CP</b>	<p><b>receiver name (local):</b> NIM2  <b>receiver model:</b> Ashtech Z-12  <b>antenna:</b> Geodetic 3  <b>reference standard name:</b> UTC(USNO(MC2))  <b>reference standard type:</b> steered H-MASER</p> <p><b>LOGS:</b></p> <p><b>NOTES:</b></p> <p>This receiver is owned by the National Imagery and Mapping Agency (NIMA)</p>

